

PD-ABN-709

STATISTICA, INC

END-OF-PROJECT EVALUATION

APPLIED DIARRHEAL DISEASE RESEARCH PROJECT

APRIL 1993

PD-ABN-709

**END-OF-PROJECT REVIEW**

**APPLIED DIARRHEAL DISEASE RESEARCH PROJECT**

**of the**

**Harvard Institute for International Development  
in conjunction with  
Johns Hopkins University and  
Tufts University**

**Project No. 936-5952  
Cooperative Agreement No. DPE-5952-A-00-5073-00  
September 1985 - September 1993**

**by**

**Abraham Horwitz, M.D., M.P.H.  
Nevin S. Scrimshaw, M.D., M.P.H.  
Judith R. Seltzer, Ph.D.**

**March 1993**

**Prepared by:  
Statistica, Inc.  
1800 N. Kent Street  
Room 1050  
Rosslyn, VA 22209**

**BEST AVAILABLE COPY**

## Table of Contents

List of Tables .....	iii
List of Appendices .....	iv
Glossary .....	v
Executive Summary .....	vi
I. Background and Introduction .....	1
II. Evaluation Methodology .....	3
III. Findings .....	5
A. Overall Project Performance .....	5
B. Research Grant Program .....	7
1. ADDR Approach .....	7
2. Quality and Significance of ADDR Research .....	9
3. Focus of ADDR Research Grants .....	11
4. Selection of Institutions and Investigators .....	16
5. Transfer of Skills .....	18
6. Individual Career Advancement .....	19
7. Dissemination .....	20
8. Linkages Between Research and Programs .....	22
9. Evidence of Capacity Building .....	24
10. Evidence of Institution Building .....	25
11. Sustainability of Capacity Building .....	26
12. Indicators of Success of ADDR's Research Grant Program ...	27
C. Coordination and Collaboration .....	29
1. Evidence at International and National Levels .....	29
2. Areas for Improvement and New Areas of Coordination and Collaboration .....	32
3. Relationships of ADDR Investigators and Others .....	33
D. Organization and Management .....	34
1. Organizational and Staff Structures .....	34
a. HIID/Tufts/JHU Subagreements .....	34

b.	Personnel (Staff and Consultants) .....	36
2.	Internal Monitoring of Grants and Project Reporting .....	38
a.	Internal Monitoring .....	38
b.	Reporting .....	39
3.	The Relationship Between ADDR and A.I.D. ....	40
a.	A.I.D./Washington .....	40
b.	USAID Missions .....	41
4.	Technical Advisory Group .....	41
E.	Financial Plans and Expenditures .....	43
IV.	Summary of Conclusions and Recommendations .....	49

#### *List of Tables*

1.	<i>Number of ADDR Grants Funded by Participating Countries, 1985-1992</i> .....	5
2.	<i>Levels of ADDR Assistance (Grant and Non-grant) to Participating Countries, 1985-1992</i> .....	6
3.	<i>Comparison of Number of Proposal Submitted to and Funded by ADDR, 1985-1992</i> .....	7
4.	<i>ADDR Research Grants by Topic, Region and Country, 1985-1992.</i> ....	13
5.	<i>Number of Proposals Intended for Funding Under the New Cooperative Agreement, 1992-1993.</i> .....	14
6.	<i>Percentage of ADDR Investigators Who Have Disseminated their Research</i> ....	21
7.	<i>Budget and Expenditures for the ADDR Project, FY 1986-1992</i> .....	44
8.	<i>Budget and Expenditures for New Cooperative Agreement, FY 1992-1996</i> .....	46
9.	<i>Distribution of Funds By Line Item for ADDR's Planned Budgets and Actual Expenditures</i> .....	47

### *List of Appendices*

1. *Terms of Reference and Scope of Work for the ADDR Evaluation*
2. *Report of Field Trip to Mexico*
3. *Report of Field Trips to Thailand, Pakistan and Guatemala*
4. *USAID Responses to Letter on the ADDR Project*
5. *Excerpts from Self-evaluation Questionnaires, November 1992*
6. *ADDR Non-grant Activities by Four Phases*
7. *ADDR Grantee Assistance Table*
8. *ADDR Workshops*
9. *ADDR Project, Grant Size Per Funding Phase*
10. *Institutional Affiliation of Grantees and Award Amount, 1985-1992*
11. *Preliminary Statistics on ADDR Grantees*
12. *Laboratory and Computer Equipment Provided by HIID/ADDR for Research*
13. *List of Investigators Receiving Multiple Awards*
14. *ADDR Level of Effort for Core and Subcontractor Staff, 1985-1992*
15. *Sites Visits to ADDR Countries by Staff and Consultants, 1985-1992*
16. *Breakdown of ADDR Expenditures by Administrative and Program Costs, 1990-1992*
17. *List of contacts*

## Glossary

A.I.D.	U.S. Agency for International Development
ADDR	Applied Diarrheal Disease Research Project
AFCODD	African Conference on Diarrheal Diseases
AHRTAG	Appropriate Health Resources and Technologies Action Group, Ltd.
ARI	Acute Respiratory Infection
ASCODD	Asian Conference on Diarrheal Diseases
CA	Cooperative Agreement
CDD	Control of Diarrheal Diseases
CeSSLAM	Center for Studies of Sensory Impairment, Aging, and Metabolism (Guatemala)
CTO	Chief Technical Officer
DRDRC	Diarrheal and Respiratory Disease Research Coordination
ENHR	Essential National Health Research Program
EPI	Expanded Programme on Immunization
HIID	Harvard Institute for International Development
ICDDR,B	International Centre for Diarrhoeal Disease Research, Bangladesh
IIN	Instituto de Investigación Nutricional (Peru)
IMSS	Instituto Mexicano de Seguridad Social
INCAP	Instituto de Nutrición de Centroamérica y Panamá
INCLEN	International Clinical Epidemiology Network
JHU	The Johns Hopkins University
LAC	Latin America/Caribbean
NCB/CSD	National Capacity Building/Child Survival and Development Committee (Nigeria)
PRISMA	Projects in Information, Health, Medicine, and Agriculture (Peru)
R&D/H	A.I.D. Bureau for Research and Development, Office of Health
TAG	Technical Advisory Group
USAID	A.I.D. country mission
WHO	World Health Organization

## Executive Summary

The Applied Diarrheal Disease Research (ADDR) Project was initiated in March 1985 by a Cooperative Agreement (CA) between the U.S. Agency for International Development (A.I.D.) and the Harvard Institute for International Development (HIID). The agreement has been implemented by a consortium of three universities: Harvard University, The Johns Hopkins University (JHU), and Tufts University. The life of the project has been extended until September 1993 with a total budget of \$10,415,384.

The purpose of the agreement has been to assist A.I.D. and host countries in a limited number of developing countries to establish or improve diarrheal disease research activities through 1) short-term technical support activities, 2) management of a research grants program, and 3) developing institutional and individual resources in developing countries. At the Project's completion, it was expected that diarrheal disease control projects would be improved; research projects would be completed in four priority areas; coordination between A.I.D. and other donors on diarrheal disease research would be improved; and that the institutional capacity to conduct research would be established in approximately 10 countries.

This is the third evaluation of the ADDR Project. The first was a mid-term evaluation conducted in March 1988. The second was conducted in March 1990. Both of the previous evaluations have strongly supported the goals and approach of the ADDR Project and gave numerous recommendations to ensure continued progress and effectiveness. This third evaluation was scheduled after A.I.D. awarded a new CA to HIID in June 1992 for a four-year follow-on project to the original ADDR. The very fact of the new award is testament to A.I.D.'s confidence in the Project and the consortium responsible for its implementation and the continuing need for research support on diarrheal disease. The new CA was awarded under the Diarrheal and Respiratory Disease Research and Coordination (DRDRC) Project; other implementors of this project include WHO/CDD and ICDDR,B.

The ADDR Project responds to A.I.D. health policy and strategies. More specifically, the Project addresses A.I.D.'s research policy in health care by developing "new technologies for child survival and ... improv[ing] the delivery and effectiveness of existing technologies" in diarrheal disease. The Project has developed an innovative approach for research capacity building in diarrheal disease based on research proposals prepared and submitted by local investigators from established institutions.

After seven years, the ADDR Project has funded 117 studies in twelve countries, principally the eight emphasis countries of Indonesia, Pakistan, and Thailand in Asia; Guatemala, Mexico and Peru in Latin America; and Kenya and Nigeria in Africa. The great majority of the studies have concerned the four areas of diarrheal disease: foods and fluids therapy, prevention, persistent and invasive diarrhea, and provider and caregiver behavior. Sixteen additional studies have dealt with acute respiratory disease (ARI) and nutrition.

ADDR has been outstandingly successful in developing a cohort of good researchers. The Project's approach has emphasized capacity building and the self-reliance of the investigators. At the same time, the Project has permitted flexibility in adapting its approach as evidenced by the multi-country study on persistent diarrhea. One of the more effective aspects of the ADDR approach is the proposal development workshop. A total of 11 of

these workshops have been conducted; no other procedure could have brought so many new investigators into the program with well-defined proposals that merited support. In addition to funding research grants, the Project has provided extensive technical assistance to all investigators and has established and maintained collegial, mentor-grantee relationships that represent another important feature of the Project's approach. ADDR staff has also emphasized the importance of dissemination and has worked closely with investigators to help them get their results written up and published.

The Project has generally funded relatively small, practical studies. These have contributed to a greater understanding of diarrheal disease and to the generation of results that should be useful and have local health policy significance. While there is good evidence of linkages between ADDR-supported research and the concerns of health programs in a few countries (e.g., Mexico and Pakistan), more attention should be given to having the investigators work closely with policy makers and program managers to ensure that research results will be used to improve policies and programs.

Following the lead of A.I.D.'s Office of Health, the ADDR Project has participated in the coordination of diarrheal disease research at the international level. The Diarrheal and Respiratory Disease Research and Coordination Committee (involving ADDR, ICDDR,B, WHO, and A.I.D.) has been an especially effective mechanism for coordination. ADDR, WHO and UNICEF have also co-funded various studies. The Project has also fostered coordination and collaboration at the national level in the various emphasis countries. There are several additional areas in which ADDR could help to promote coordination and collaboration. These include: 1) the continuing review of research priorities and needs (e.g., the need for more training resources for investigators) by DRDRC; 2) creating more opportunities for co-funding of research on diarrheal disease; and 3) better coordination among the various agencies that develop training materials and bibliographies.

The ADDR Project has had a strong technical capacity because of the combined strengths of the staff in the consortium and consultants. Differences among the three institutions about the Project's objectives have led, in several instances, to different types of studies (e.g., a multi-country study on persistent diarrhea). On the whole, this diversity and flexibility in the project's approach has been beneficial. ADDR's recent work in ARI and nutrition, while responding to real needs and research areas, may exceed the capacity of current staff particularly at HIID. The Technical Advisory Group (TAG) has been inactive in the past few years. A consultative group for the new CA is currently being constituted to help guide the research priorities of the Project, but it will not be involved in funding decisions. Finally, the Project is completing its activities and research support under the original agreement in Pakistan and in some countries in Latin America on cholera. All other project activities are now being carried out and funded by the new CA.

Given the effectiveness of ADDR's approach, it is particularly important to have more thorough documentation of both the process and the results. The ADDR staff needs to document the proposal development workshop process and its results. The staff also needs to systematically assemble evidence of success in personnel development, institutional development, and policy and program influence of the Project supplemented by site visits to ADDR-supported investigators. This information would be extremely useful in a future evaluation of the ADDR follow-on project. Such an evaluation should focus on the broad spectrum of results and outcomes of the Project.

The Evaluation Team has made a number of additional recommendations based on ADDR's past experience to guide initial work under the follow-on CA. The main recommendations are:

1. ADDR should continue its highly effective approach to capacity building that emphasizes the self-reliance of the investigators, uses the proposal development workshops to stimulate new research, and establishes strong mentor-grantee relationships along with extensive technical support to investigators. The Project should also retain flexibility to support more directed research such as the multi-country study of persistent diarrhea.
2. Care should be used not to fund too many studies, and a date should be set after which no additional grants will be awarded (unless A.I.D. plans a second follow-on project).
3. A.I.D. and ADDR should re-examine the focus of the research to ascertain whether expanding the number of areas to include ARI, nutrition, micronutrients, cholera, and malaria will weaken the Project's effectiveness given the planned staff and funding levels. A.I.D. should increase funding for these activities, and more emphasis should be given to research on prevention, and where feasible, intervention studies.
4. The number of emphasis countries should not be expanded and those that are included should have an ongoing program for the prevention and control of diarrheal disease.
5. More attention should be given not only to documenting the ADDR approach and research results, but also to comparative analysis by ADDR staff of studies on similar topics (e.g., cereal-based oral rehydration) in different settings to come up with findings of global significance, if possible.
6. ADDR should set up a system to monitor progress of the investigators that includes measures to assess improved research capacity, improved academic and management positions, publications, success in getting additional research funds, attracting young investigators, and so forth.
7. As was recommended in the 1990 evaluation, ADDR should make a consistent and strong effort to foster linkages between the investigators and the relevant policy makers and program managers in the various emphasis countries. Further, the planned conference on research and policy should be postponed until there is adequate time to prepare case studies on the Project's experience in this area.

The Evaluation Team believes that A.I.D. is to be congratulated for conceiving and supporting the ADDR Project. It is an excellent example of an innovative and true development project. No multilateral agency could have invested as much in applied diarrheal disease research as A.I.D. has done. ADDR's successful approach to capacity building has benefitted several hundred investigators from developing countries and the results are being used in a number of places to improve diarrheal disease control programs.

The site visits to Guatemala, Mexico, Pakistan, and Thailand that were conducted in the course of the evaluation were an invaluable source of information about the Project and

confirmed the uniqueness and strengths of ADDR. For example, in Mexico, the Project heightened the importance of diarrheal disease research so that it has become a priority area along with the Expanded Programme on Immunization (EPI) for the government. Further, the research contributed directly to strengthening the scientific basis of national policy for the prevention and control of diarrheal disease. Similarly, in Pakistan, the ADDR Project has achieved impressive improvements in the health research environment and some of the findings have already been applied to programs and policy.

While it is not possible to measure the results of ADDR in quantitative cost-benefit terms, it is clear that the Project is having a practical effect on the treatment of diarrheal diseases and the training of medical students and other health workers and that this effect can only increase with time. The resulting drop in the duration of hospitalization and in mortality from diarrheal disease is of direct economic as well as human benefit. So is the progress in preventing diarrhea through the demonstration of successful interventions to improve personal hygiene at the household level (as in Thailand). While the improved nutrition and better overall resistance to infection resulting from reduced diarrheal disease is harder to determine, it is another substantial benefit.

## I. Background and Introduction

The Applied Diarrheal Disease Research Project (ADDR) was initiated in March 1985 by a Cooperative Agreement (No. DPE-5952-A-00-5073-00) between the U. S. Agency for International Development and the Harvard Institute for International Development (HIID). The agreement was originally for five years to September 1990 for an estimated cost of \$9,998,630. Following the March 1990 end-of-grant evaluation, the agreement was extended two years to September 1992. Funding was subsequently increased to \$10,415,384. The project was extended for an additional year to September 1993 to allow time for completion of on-going research in Pakistan and work in cholera control in Latin America.

The purpose of the agreement has been to assist A.I.D. and host countries to establish or improve diarrheal disease research activities through: 1) short-term technical support activities, 2) management of a research grants program and 3) developing institutional and individual resources in developing countries. At the project's completion, it was expected that diarrheal disease control projects would be improved; research projects would be completed in four priority areas; coordination between A.I.D. and other donors on diarrheal disease research would be improved; and that the institutional capacity to conduct research would be established in approximately 10 countries.<sup>1</sup>

A consortium of three institutions -- Harvard Institute for International Development, The Johns Hopkins University (JHU), and Tufts University -- has implemented the agreement from its inception.

A mid-term evaluation of the project was conducted in March 1988. The evaluation gave strong support to the goals and approach of the ADDR Project and made numerous recommendations for the improved design and implementation of ADDR. The end-of-project evaluation was carried out in February-March 1990, which identified major project accomplishments and recommended additional measures to ensure further progress.

Among the accomplishments identified in the end-of-project evaluation were 58 funded grants on diarrheal disease research involving 150 researchers. Most of the projects had been carried out in seven emphasis countries (Indonesia, Pakistan, and Thailand in Asia; Kenya and Nigeria in Africa; and Mexico and Peru in Latin America). The evaluation found ADDR's model for capacity building and institution strengthening to be sound and feasible. ADDR's support for the mentor-researcher relationship was commended. Among the areas requiring further attention were: 1) the development of a truly integrated model of research incorporating both the biomedical and social sciences for application to different types of diarrheal disease research; 2) the development of more prevention and intervention studies as one of the four broad themes in the ADDR research portfolio; 3) the increased involvement of national policy makers and CDD program managers in the formulation of research questions and in the review and use of research results; and 4) the preparation of specific case studies documenting ADDR's model for capacity building and institutional strengthening in diarrheal disease research.

The evaluation report also recommended that A.I.D. approve a two-year, no-cost extension of the agreement and consider extending the project for one additional year to allow for the orderly completion of the research studies, dissemination of findings, and identification of priority areas and rationale for possible follow-on activities. The evaluation also gave A.I.D. considerable credit for

---

<sup>1</sup> *The 1990 evaluation mistakenly reported that such capacity would be established in only 6 countries.*

initiating a process that offered long-range implications for health and social development and encouraged A.I.D. to continue this process and develop a follow-on project.

Since the end-of-project evaluation, A.I.D. extended the existing agreement for three years as was recommended. A total of 117 grants<sup>2</sup> were awarded totalling \$3.3 million between 1985-1992 in 12 countries, with the vast majority of studies funded in eight emphasis countries. Considerable effort has been given to the preparation and publication of articles, and an impressive list of publications exists on all four of the project's research themes. The Project has also assisted in the great improvement in the degree of cooperation and coordination among the key international institutions involved in diarrheal disease research, namely WHO, ICDDR,B and A.I.D.

A new Cooperative Agreement (HRN-5986-A-00-2010-00) was signed on June 4, 1992 for a period of four years ending in May 1996 under the Diarrheal and Respiratory Disease Research and Control (DRDRC) umbrella project. The estimated cost of the agreement is \$6,721,809. The new agreement will fund research that pursues and extends the research initiatives in diarrheal disease begun under the ADDR Project. It will also support work on nutrition, acute respiratory infection, malaria, and other infectious diseases in concert with the work on diarrheal diseases. The new agreement provides greater direction than the previous agreement to HIID by outlining the key research topics principally related to diarrheal diseases (case management; prevention and intervention; and diarrheal diseases with specific epidemiologic patterns including persistent diarrhea, invasive diarrheas and cholera) and to a much more limited extent acute respiratory infections, and overlapping areas of malaria and nutrition. The agreement also emphasizes the importance of applying research results through various project activities. As with the previous ADDR Project, a consortium of HIID, JHU and Tufts will implement the agreement.

The end-of-project evaluation recommended that a final end-of-project review of the extended ADDR Project be undertaken to guide the follow-on project. The current evaluation responds to that recommendation. The objectives of this final review are:

1. To summarize from the three evaluations the adequacy of the Project's goal, design and funding.
2. To assess the implementation of the ADDR Project.
3. To highlight lessons learned from the first Project that could guide the follow-on Project.

The Evaluation Team was asked to look at the Project's performance by comparing changes over three project periods: 1985-1988, 1988-1990, and 1990-1992. We have done this when it was feasible and made sense to do so. In addition, the Team has looked at some initial activities under the new Cooperative Agreement.

---

<sup>2</sup> One project that was awarded in 1990 had to be terminated early for reasons beyond the control of ADDR.

## II. Evaluation Methodology

The third evaluation of the ADDR Project occurred between November 9, 1992 and February 25, 1993. The Evaluation Team included three external reviewers:

Abraham Horwitz, M.D., M.P.H.  
Director Emeritus  
Pan American Health Organization

Nevin Scrimshaw, Ph.D., M.D., M.P.H.  
Director  
Food and Nutrition Programme for Human and Social  
Development  
United Nations University

Judith R. Seltzer, Ph.D. (Team Leader)  
Independent Consultant

Individual Team members reviewed project documents listed in the Terms of Reference and Scope of Work for the Second End-of-Project Review (see Appendix 1). On November 9, 1992 the Team met at the offices of Statistica, Inc. in Rosslyn, Virginia, to review the scope of work, prepare additional questions and requests for additional information, and plan a series of field trips. The Team was assisted on the first day by Ellyn Ogden, Project Director at Statistica. Also on that day, A.I.D. health staff, including Dr. Caryn Miller (CTO for ADDR), Dr. Ann Van Dusen (Acting Assistant Administrator, R&D), Dr. Pamela Johnson (Acting Associate Director, R&D/Office of Health), and Dr. Melinda Moree (AAAS Fellow), briefed the Team on key issues for the current evaluation. The following morning, the Team met with Dr. Robert Black, project director for the JHU subagreement on the ADDR Project. The Team met with additional A.I.D. staff on November 10th including Melanie Marlett and Hiram Larew (PPC/POL/SP), William Lyerly (AFR/ARTS/HHR), Al Bartlett (R&D/H/HSD), and Carol Dabbs (LAC/DR).

The Team travelled to Cambridge, Massachusetts and spent the remaining three days of the week with the management and staff of the ADDR Project. Dr. Richard Cash, the principal investigator of the ADDR Project, described the approach and evolution of the project and the orientation of the follow-on project. Other staff members who contributed substantially to answering the Team's questions included: James Trostle, Maye Olivola, Johannes Sommerfeld, Guillermo Herrera, Jonathan Harrington, and Charlotte Gnecco (Project Manager).

Two Team members, Drs. Scrimshaw and Seltzer, subsequently had long discussions with Dr. Gerald Keusch, Project Director of the Tufts University subagreement.

Several overseas trips were made by Team members to give a fuller understanding of the project's implementation in the field and to have an opportunity to meet with researchers who had received awards from ADDR and other officials including those from ministries of health and USAID missions. Dr. Horwitz traveled to Mexico for the week of January 18, 1993. Dr. Scrimshaw visited researchers in Thailand (November 22-25, 1992); Guatemala (January 4-6, 1993); and Pakistan (January 25-28, 1993). The results of these field trips are integrated into the body of the report. Brief trips reports are also included in Appendices 2 and 3.

In addition to the field visits, staff of A.I.D.'s Office of Health sent a letter in August 1992 to USAID missions, non-grantee researchers and diarrheal disease experts asking for comments on the first ADDR Project and on future directions for the new project. Also in August 1992, ADDR sent out a self-evaluation questionnaire to each of its grantees asking for comments on how the project had assisted the researchers and their institutions and also asking for suggestions to improve the project in the future. The Team reviewed the responses to these two letters to gain additional insights into the project's implementation. Responses to both efforts are included in Appendices 4 and 5.

Finally the Team met on February 25, 1993 to review the draft report and to present its findings to A.I.D. officials and to HIID staff.

Ellyn Ogden of Statistica, Inc. provided technical assistance and coordination for the evaluation. She was with the Team for many of the discussions in Washington, D.C., prepared report documents and edited the final report.

### III. Findings

#### A. Overall Project Performance

The ADDR Project has made, and is continuing to make, an impressive contribution to research on diarrheal disease in developing countries. To date, 117 projects have been funded under the original CA. The Project's resources have been concentrated on a limited number of countries to ensure that greater effort will be devoted in each country. Under the original CA, there are eight emphasis countries where multiple grants were awarded. Only Guatemala was added to the emphasis countries since the previous evaluation. Four additional countries (Costa Rica, Ecuador, Cameroon, and Senegal) participated in the Project, but only one grant was funded in each. The following table shows the number of funded grants in all 12 countries participating in the original ADDR Project across the three project periods. Clearly, the amount of funding activity has mushroomed since 1990.

Table 1

Number of ADDR Grants Funded by Participating Countries, 1985-1992 \*  
(Funded under the Original CA)

	<u>1985-88</u>	<u>1988-90</u>	<u>1990-92</u>	<u>Total</u>
<u>Asia</u>				
+ Indonesia	-	8	8	16
# + Pakistan	7	2	33	42
+ Thailand	11	1	4	16
<u>Latin America</u>				
Costa Rica	1	-	-	1
# Ecuador	-	-	1	1
# + Guatemala	-	-	3	3
# + Mexico	2	4	5	11
# + Peru	7	1	7	15
<u>Africa</u>				
# Cameroon	-	1	-	1
+ Kenya	3	-	-	3
Senegal	-	1	-	1
# + Nigeria	2	2	2	6
Total	33	20	64	117

\* One additional study was funded in Zaire, but was terminated for reasons beyond the control of the Project.

+ Emphasis countries under the original CA.

# Emphasis countries under the new CA along with Cote d'Ivoire and Ghana.

The emphasis countries under the new Cooperative Agreement have expanded to 11 and include more African countries (Cote d'Ivoire, Cameroon, and Ghana). It is also anticipated that the level of assistance in Nigeria will increase. Ecuador has been added to the emphasis countries, and Thailand is no longer among this group due to political reasons beyond the control of the Project.

ADDR has provided support to developing countries in the form of research grants as well as non-grant activities. Of \$4.9 million in such research assistance, \$3.3 million or 68 percent has been awarded in the form of grants and the remaining \$1.6 million has funded conferences, workshops, institutional support grants, and some technical assistance. The following table shows the levels of support provided by ADDR for both grant and non-grant assistance in the 12 participating countries.

**Table 2**

**Levels of ADDR Assistance (Grant and Non-grant) to Participating Countries, 1985-1992**  
(All assistance funded under the original CA)

	<u>Grant*</u>	<u>Non-grant</u>	<u>Total</u>
<u>Asia</u>			
Indonesia	\$ 393,403	\$ 101,117	\$ 494,520
Pakistan	928,104	108,644	1,036,748
Thailand	387,274	99,454	486,728
<u>Latin America</u>			
Costa Rica	6,725	-	6,725
Ecuador	21,537	18,861	40,398
Guatemala	67,010	-	67,010
Mexico	495,932	8,385	504,317
Peru	694,698	1,845	696,543
<u>Africa</u>			
Cameroon	12,778	32,767	45,545
Kenya	75,677	37,599	113,276
Nigeria	229,169	48,609	277,778
Senegal	9,367	-	9,367
Zaire	26,848	-	26,848
<b>TOTAL</b>	<b>\$3,348,522</b>	<b>\$457,281**</b>	<b>\$3,805,803</b>

\* These are the total amounts awarded for research grants, not only expenditures, hence differ from the line item for research grants in Table 9.

\*\* Another \$1,102,654 has been provided in non-grant assistance through ADDR for a grand total of \$4,908,457 in what the Project calls "research grants." See Appendix 6 for a complete list of these activities by country and project phase.

The ADDR Project has expended considerable effort in stimulating interest among investigators to submit research proposals. In fact, 397 proposals were submitted over the 1985-1992 period. Of the 310 proposals submitted in 1985-91, 79 were actually funded, representing a funding rate of 25 percent. As the table below indicates, a much higher percentage received funding during the more recent project period of 1990-91, which suggests that ADDR's greater experience in generating proposals and knowledge of the research environments in the emphasis countries is leading to a more refined effort. It is too soon to tell yet what percentage of the proposals currently under consideration will be funded.

**Table 3**  
**Comparison of Number of Proposal Submitted to and**  
**Funded by ADDR, 1985-1992**

	<u>Submitted</u>	<u>Funded</u>
1985-87	130	30
1988-89	108	19
1990-91	72	30
1992	87	not yet known
	<hr/> 397	

## **B. Research Grant Program**

### **1. ADDR Approach**

The ultimate goal of the ADDR Project is to reduce the incidence of, and mortality due to, diarrheal disease. As defined in the Cooperative Agreement, the Project focused on two objectives designed eventually to meet this goal: 1) to improve the institutional capacity to conduct research in a limited number of developing countries, and 2) to improve diarrheal disease control projects. ADDR's approach has concentrated on creating a core group of self-reliant researchers associated with established scientific institutions in their countries and assisting them to develop sound research. Capacity building and institutional strengthening are thus at the heart of the ADDR Project. These are its "raison d'être." Dr. Trostle's definition of research capacity building captures the essence of the ADDR Project's objectives: "research capacity building is a process of individual and institutional development leading to higher levels of skills and greater ability to perform useful research."<sup>3</sup>

This definition highlights the importance of both the investigator and his or her institution. To foster truly sustainable research involves both. The Evaluation Team believes that ADDR was right in selecting, from its inception, appropriate institutions and investigators in emphasis developing countries. This decision was based mainly on the need to test an innovative methodology for diarrheal disease research which focuses on improving the

<sup>3</sup> Trostle, James. "Introduction. Research Capacity Building in International Health: Definitions, Evaluations, and Strategies for Success," *Social Science and Medicine* 35 (December 1992): 1321-1324.

capacity of the local investigators so that they become self-reliant researchers. This is the expected outcome of a process starting with the question posed by the investigator. The process involves the investigator's designing proposals (through proposal development workshops which are discussed later or in close collaboration with a consultant acting as a mentor), ADDR's reviewing proposals, monitoring the conduct of research, providing technical assistance during the conduct of research as needed, and providing editing and other assistance to ensure dissemination of research results.

The intensive level of assistance provided by Project staff and consultants to the investigators has been one of ADDR's strong points. Appendix 7 indicates the number of investigators that have received varying types of assistance ranging from review of proposals and on-site technical assistance to equipment. The number of investigators benefiting from these efforts is substantial.

For some, the ADDR methodology is self-limiting in the sense that the potential researchers retain the initiative in formulating research questions and in designing their proposals. Program managers of diarrheal disease have generally not been involved in this process, and therefore, program needs have not been a major consideration. However, it can be safely stated that program managers are usually not research minded but are involved in problem-solving. They apply validated knowledge and technologies to avert death, prevent or control diarrheal disease. They cannot be expected to formulate appropriate research questions in terms of program needs unless carefully guided. Should the ADDR Project act in this capacity, it will become directed thus largely defeating the original ADDR methodology of leaving the initiative in framing questions to the local investigators and missing the opportunity of identifying self-reliant investigators. The counter argument is that the ADDR approach may not contribute to advances in the control of diarrheal disease and to reductions in the incidence of and mortality due to diarrheal disease unless there is a deliberate effort to link research outcomes with policy and programs.

The Evaluation Team was made aware of differences in the Project's methodology or approach as conceived by the members of the consortium from Johns Hopkins University and those from HIID and Tufts. While these differences were expressed in terms of the size, sophistication, and scientific quality of projects, the differences were also in terms of the Project's objectives. The Johns Hopkins investigators gave highest priority to grants that would develop new knowledge of international value, while the HIID and Tufts placed greater emphasis grants that would increase the competence and understanding of local investigators. This led the former group to champion scientific quality and the Project's longer-term goals, and the latter to accept the level of scientific quality that represented the best effort of the investigator and thus the Project's capacity building objective.

The Evaluation Team believes that this apparent dichotomy in the Project's longer-term goals and the ADDR approach has been resolved by the evolution of the Project and the approved follow-on activities. While the ADDR Project has largely funded small studies proposed by the investigators, it has also supported a large multi-country study of a treatment algorithm for persistent diarrhea. This effort, a joint endeavor of WHO and ADDR, could be considered a good example of a pre-determined subject including specific questions (examined at a conference in Mombasa, Kenya) and developed by six countries in governmental health facilities. Questions were framed by the Project, not by the investigators as in the original ADDR methodology. The scope of work for the follow-on

project is clearly more directive in suggesting research topics and focus than was the previous Cooperative Agreement. This suggests that all parties, the members of the consortium and A.I.D., accept a more pro-active approach in the new project.

**CONCLUSION:** The ADDR methodology has emphasized the self-reliance of the investigators and has been shown to be effective for capacity building in diarrheal disease research. At the same time, ADDR has permitted flexibility in adapting its approach as evidenced by the multi-country study on persistent diarrhea and the new directions outlined in the follow-on project.

**RECOMMENDATION:** The Evaluation Team strongly recommends that the methodology used by ADDR continue to give prominence to the self-reliance of the investigators while retaining flexibility to support some directed research called for in specific situations in the various emphasis countries.

## 2. Quality and Significance of ADDR Research

To evaluate the quality and significance of the ADDR-sponsored research, its dual objectives of strengthening research capacity and of improving control of diarrheal disease (CDD) programs must be kept in mind. On the basis of a review of the project documents, interviews with project managers and consultants, and site visits with ADDR-sponsored investigators in Thailand, Guatemala, Mexico and Pakistan, it is clear that the project has been successful in achieving both of these objectives, and particularly in building capacity. This is true of the initial five years of ADDR, and the Project continues to achieve these objectives after more than two of its three-year extension.

The ADDR Project has had a third important benefit to the countries not specifically identified in the original proposal. This is its contribution to the quality and practicality of the teaching and mentoring of young health professionals in the institutions in which research was supported. In many cases faculty members whose prior experience was limited to hospital and clinic patients obtained experience with health problems at the household and village level. In addition, many have already begun to pass on to younger professionals the research methodologies and standards they have learned from ADDR workshops, consultants and mentors.

Fortunately, to achieve these objectives the research need not be sophisticated and costly or produce results of more than local application although this characterizes some of the ADDR projects. The great strength of the program is not the originality or global significance of its research projects, but rather their practicality, usefulness and local health policy significance. It is only at the field level that this can be evaluated and when Team members had an opportunity to do so in four countries, the value of simple repetitive research to the health issues confronting the countries was evident.

The methodology that has contributed most to the success of ADDR was the use of the proposal development workshop. ADDR has conducted 11 proposal development workshops to date (9 under the original CA and 2 under the new CA). The Project's staff and consultants spent considerable effort in developing and refining the approach to these workshops which are considered a key aspect of its approach to supporting research in developing countries. In addition, ADDR has sponsored other workshops including those

devoted to data analysis and report writing. (See Appendix 8 for a listing of all ADDR Workshops.) In general, the proposal development workshops were well-planned, effective, and the staff and consultants who served as resource persons did an excellent job.

Special mention should be made about the relationships of the ADDR Project staff and consultants with the investigators and their institutions. These relationships have been very sound and effective. In the field visits, there was consensus on the high quality of the scientific assistance provided, the genuine sense of cooperation and the friendly approach. Staff and consultants encouraged investigators to select their own research goals and write their own proposals. They provided effective training in the basic principles of experimental design and quality control. Their visits were an educational process to improve the development of the studies in their different phases. They were invited by the investigators to be co-authors of the publications describing each study and did not request to be included.

The proposal development workshops gave an opportunity to both junior and senior professionals with limited research skills and experience to formulate their own proposals with expert guidance but not dictation. No other procedure could have brought so many new investigators into the program with well-defined proposals that merited support. Moreover, the experience gained in the proposal development workshops not only could be applied by the investigators to the formation of additional proposals in diarrheal disease and other health-related problems, but also could be used as a model for the training of the next generation of health researchers. There is now a need for similar efforts to develop the curriculum for workshops in data analysis as well as in writing reports and scientific papers.

The level of funding provided to ADDR grantees has varied somewhat, but the vast majority of projects funded have had budgets below \$50,000. Of 169 proposals that have been or are expected to be funded between 1985-1993, 37 percent or 63 proposals have budgets under \$25,000. Another 30 percent or 50 proposals have budgets between \$25,000 and \$50,000. Only 17 have budgets of over \$50,000. (See Appendix 9 for a breakdown in the size of grants over the three project periods.)

It is noteworthy that there seems to be no discernible relationship between the size of the grant and its effectiveness in advancing the objectives of the program. The designers of the project are to be commended on their decision to award a large number of relatively small grants rather than a few large ones. An unsympathetic observer could classify some of the proposals as trivial and recommend greater sophistication. However, many of the investigators were just beginning and needed to start with small, well-defined projects. This was highlighted by a mistake made in the early stage of the ADDR Project in awarding a large grant to a young Mexican investigator to conduct a complex, multi-phase study.

In the Evaluation Team's view, every effort should be made to insist on the highest quality of research that can be achieved without excluding beginning and junior investigators. Moreover, those who prove to be the best should be rewarded by further support to bring them up to the next level of research achievement and sophistication. While emphasis on quality data production is appropriate, the Team feels that more attention should have been given to promoting the application of the results to health policy and practice. It is not too late to make it clear to investigators that this is an essential part of any applied research project.

It is too soon to judge the success of the research on the basis of resulting research publications. Most of the research results are community specific and appropriate only for local journals and reports, although some are of national or international interest and have been published in peer-reviewed journals with regional and international circulation.

Another positive feature of the Project has been its incorporation of research on the role of household and individual behavior on the occurrence of diarrheal disease and its prevention. The studies of health-related behaviors have improved the understanding of those academically responsible for teaching medicine and public health and had considerable influence on the formulation of health intervention policies.

The results of the ADDR Project cannot be expressed in quantitative cost-benefit terms. However, it is appropriate to emphasize the benefits qualitatively. Diarrheal disease is responsible for approximately a third of the infant and preschool morbidity and mortality in ADDR emphasis countries. As such it is a burden on the health system, and through its secondary effects, decreases the effectiveness of the educational system. Further, there is no economic return for early investments made by households and the government in children who die of diarrhea.

The communication of ADDR findings on the effective treatment of diarrheas with local resources to practicing physicians and to the training of medical students and other health workers is having a practical effect that can only increase with time. The resulting drop in the duration of hospitalization and in mortality from diarrheal disease is of direct economic as well as human benefit. Additional benefits are realized as progress is made in preventing diarrhea through the demonstration of successful interventions to improve personal hygiene at the household level. While improved nutrition and better overall resistance to infection resulting from reduced diarrheal disease is harder to determine, it is another substantial benefit.

**CONCLUSIONS:** ADDR has been outstandingly successful in developing a cohort of good researchers, and the proposal development workshop is an excellent training model. By funding relatively small, practical studies, ADDR has also contributed to greater understanding of diarrheal disease and to the generation of studies that are useful and have local health policy significance. The relationships of the ADDR Project staff and consultants with the local investigators and their institutions have been sound and effective. While difficult to measure quantitatively, there are substantial economic and human benefits to the countries where ADDR has been active due to more effective treatment and prevention of diarrhea.

**RECOMMENDATIONS:** The Project can play a very useful role as it has done in introducing investigators to protocol research, but can play a further role in assisting the investigators to move on to the next level of competence and independence in conducting research. Every effort should be made to insist on the highest quality of research possible without excluding more junior investigators. In addition, there should be more opportunities for the best investigators to do more sophisticated research; the Project should be flexible in providing support for somewhat larger studies for second stage research grants. Support should continue to be provided not only for grants, but also for additional training and participation in international workshops and meetings. The Evaluation Team also urges that the excellent relationships of the Project staff and consultants with the local investigators

continue during the follow-on CA. The Project should also develop a workshop methodology for data analysis and writing of reports and scientific papers that is as well conceived and conducted as is the proposal development workshop.

### 3. Focus of ADDR Research Grants

Under the original Cooperative Agreement, the vast majority of awards have been made in the four areas of diarrheal disease defined by the project including foods and fluids therapy, prevention, persistent and invasive diarrhea, and provider and caregiver behavior. Among the diarrheal disease research studies, most were on provider and caregiver behavior, followed by prevention, food and fluids therapy, and persistent and invasive diarrhea. With the addition of funding from USAID/Pakistan in FY 1990, a number of additional studies in acute respiratory infection (ARI) and nutrition has also been supported. With a buy-in from A.I.D.'s Latin American and Caribbean Bureau, a small technical assistance effort was directed to cholera control, but no cholera research studies were funded. The new ADDR Cooperative Agreement extends the original ADDR methodology to additional health problem areas, such as ARI, micronutrients, malaria, as well as more emphasis on cholera.

The following tables 4 and 5 show the number of studies funded in each of the four principal areas along with ARI and nutrition under the original agreement and the number of proposals that will likely be funded in 1992-1993 under the new agreement by each of seven areas. Under the new agreement, three additional topics have been added: ARI, nutrition, and cholera.

Table 4

**ADDR Research Grants by Topic, Region and Country,  
1985-1992.**

Country		Foods and Fluids Therapy	Prevention	Persistent and Invasive Diarrhea	Provider and Caregiver Behavior	Nutrition	ARI	Total
Asia	Indonesia	0	3	2	11	0	0	16
	Pakistan	8	4	7	7	7	9	42
	Thailand	1	7	0	8	0	0	16
Latin America	Costa Rica	0	1	0	0	0	0	1
	Ecuador	0	1	0	0	0	0	1
	Guatemala	1	0	2	0	0	0	3
	Mexico	3	0	3	5	0	0	11
	Peru	5	3	2	5	0	0	15
Africa	Zaire	0	0	1	0	0	0	1
	Cameroon	0	1	0	0	0	0	1
	Kenya	0	2	0	1	0	0	3
	Senegal	0	0	0	1	0	0	1
	Nigeria	1	3	0	2	0	0	6
	Total	19	25	17	40	7	9	117

Table 5

Number of Proposals Intended for Funding  
Under the New Cooperative Agreement, 1992-1993.

Country		Foods and Fluids Therapy	Prevention	Persistent and Invasive Diarrhea	Provider and Caregiver Behavior	Nutrition	ARI <sup>1</sup>	Cholera	Total
Asia	Pakistan	4	5	2	6	7	9	0	33
Latin America	Ecuador	0	0	0	1	0	0	0	1
	Mexico	0	0	0	1	0	1	1	3
	Peru	0	1	0	1	0	0	4	6
Africa	Cameroon	1	1	1	5	1	2	0	11
	Cote d'Ivoire	0	0	0	0	0	2	0	2
	Ghana	2	0	1	1	0	4	0	8
	Nigeria	2	5	4	7	0	3	0	21
	Total	9	12	8	22	8	21	5	85

<sup>1</sup> Malaria activities included in ARI.

The amount of funds to be invested in research on ARI and micronutrients is relatively small in relation to the magnitude of the problem (\$400,000 not including funding for projects in Pakistan) to expect significant new knowledge. Although of great public health importance in the developing world, the selection of these new health problems requires the adaptation of the ADDR methodology to frame questions, design proposals, and implement research. Because of the diversity of study areas, it may turn out to be a rather complex exercise. To undertake these additional study areas effectively will require additional expertise and management capacity to accommodate these new areas, i.e., additional funds not originally budgeted for. Projects concerned with the interaction of malnutrition and diarrhea were an appropriate part of the ADDR Project from the beginning and any ARI research should include related nutrition and malaria projects. However, for ADDR to handle research on the child survival component of nutrition would be a major undertaking.

Since extension of the original project in 1990, 84 additional research studies have been or are about to be funded in nine countries. These have been reviewed only by title but some observations are appropriate. With the exception of Pakistan where the projects are funded by the local USAID mission, the new grants do not reflect much deviation from a continued focus on management of diarrheas. It is disappointing to the Evaluation Team that there has not been more concern in the program with the prevention of diarrhea as well as its treatment. Only two projects in Nigeria and one each in Peru and Ghana can be said to fall in this category. Clearly, more attention on prevention and where feasible, intervention studies should be a priority for the new CA.

There is a strong demand from investigators in Pakistan and encouragement from the local USAID mission to extend the disciplinary coverage to other health problems of child survival. The new proposals for that country include 10 concerned with ARI and 7 nutrition projects including ones on iron, zinc and vitamin A that could be of global significance. There are also 5 ARI projects in Ghana, 3 in Nigeria, and 2 in Cote d'Ivoire, plus 2 nutrition projects in Cameroon. This diversification is welcomed if the quality of consultant help in diarrheal disease is maintained in these areas, as in the past. The titles of the proposals are promising. Most of the investigators interviewed in Pakistan favored a program that included the major aspects of child survival in developing country population, diarrheal, respiratory and nutritional disease, and this broadening is welcomed. To the disappointment of the Evaluation Team, there continues to be an emphasis in the diarrheal research on treatment instead of prevention. However, there is no reason to doubt either the relevance or value of the projects proposed.

**CONCLUSIONS:** The ADDR Project concentrated primarily on four areas of diarrheal disease (food and fluids therapy, prevention, invasive and persistent diarrhea, and provider and caregiver behavior) during the original CA. Least emphasis has been given to studies on the prevention of diarrhea. Since 1990, research and technical assistance have been extended to two other subject areas, ARI (this was a new topic for ADDR) and cholera (more emphasis was given because of the cholera epidemic in Latin America). The new CA expands the topical focus of ADDR further to include nutrition, micronutrients, and malaria. The Evaluation Team feels strongly that the increase in the number of subject areas, while responding to real needs in the field, will be detrimental to the quality of the assistance provided by ADDR and in turn to the quality and significance of the resulting research unless additional resources are provided.

**RECOMMENDATIONS:** If the ADDR Project is to support research in an expanded number of areas, then more resources will be needed to enable the Project to expand its technical and management capacity so that its successful approach to research is not undercut. The Evaluation Team recommends that A.I.D. increase funding levels for these expanded areas of research. If this is not possible, the Evaluation Team recommends that the Project limit research in other areas to those studies that are linked to problems of diarrheal disease. Further, the Team recommends that there be more focus on prevention and, where feasible, intervention studies.

#### 4. Selection of Institutions and Investigators

Criteria for selecting countries, institutions, and scientists for ADDR studies are clearly stated in the Proposal for Follow-on Activities, Section 9A, pages 60-62. These criteria have been successfully tested during the life of the ADDR Project, and the Evaluation Team agrees with them. An additional criterion for country selection would be to select only those countries with an established program of diarrheal disease prevention and control. With respect to institutions, where the nature of the study requires it, institutions should be selected that already have the needed equipment, instruments, and materials to implement research.

Criteria used for selecting institutions have not changed over the life of the ADDR Project, but they are now better interpreted and adapted to local conditions because of the experiences of ADDR staff. For instance, ADDR staff know more about the local academic and political environment in the emphasis countries and the implications for conducting effective research. This is reflected in the identification of institutions with a capacity to support a number of investigators and their studies. The staff also looks for evidence of real interest in research based on the opinion of university and governmental authorities and the recommendations from international agencies, bilaterals and NGOs.

For the most part, the ADDR Project has deliberately chosen to concentrate its resources at fewer institutions and has funded follow-up grants after a first study has been completed successfully. (See Appendix 12 for a listing of institutions and the number of grants funded at each for the three project phases.) Of the grants awarded between 1985-1992 to some 32 institutions, 17 institutions received more than one grant. ADDR funded single studies in a few countries and found this approach essentially unsuccessful. For the most recent period of the new CA, 32 institutions will probably be funded, and 8 of these will receive support for more than one study. The trend toward more dispersed grant support has been the favored policy in both Nigeria and Pakistan at the request of the respective local governments and the USAID missions.

Pakistan and Nigeria are two particular cases where the selection criteria are applied in a process of research decentralization, both geographic and institutional. This situation, decided by the local government and the USAID mission (also UNICEF in Nigeria), plus the large number of projects in each country, have resulted in ADDR's placing a resident advisor in each country to manage the Project's activities. It is a rather recent experience that should be carefully assessed.

In both Pakistan and Nigeria, capacity building is being accomplished through the creation of a network of researchers, rather than through any specific institutional development. The

resident advisor facilitates this process without limiting the initiative of the investigators. Furthermore, of the previous studies in Nigeria, four were concentrated in the University of Lagos. Since the decentralization started, the distribution shows nine studies clustered in three universities, and six others at six different institutions. This distribution according to the staff, resulted from selecting the best candidates with studies that could be of significance for the national CDD program. Incorporating research outcomes into policies and programs in Nigeria and Pakistan should be carefully evaluated.

The major criterion for identifying scientists is the quality of the proposal leading to its funding. One important component in an individual's selection is his or her willingness and ability to respond to the critical review process that sometimes turns out to be complex and time consuming.

One very valuable characteristic of the ADDR methodology has been the creation of teams of senior and junior scientists which helps build additional research capacity. As has been mentioned, both senior and junior scientists participate in the proposal development workshops. Another valuable characteristic is emphasis on including both clinical and social scientists on the research teams. This is particularly important for studies investigating health and behavioral issues.

The Project has selected a number of sound institutions through which to support research on diarrheal disease. These include the Instituto Mexicano de Seguridad Social (IMSS) in Mexico, the Aga Kahn University and King Edward Medical College in Pakistan, the University of Ibadan in Nigeria, the Center for Child Survival at the University of Indonesia/Depok in Indonesia, the Mahidol University in Thailand, the Instituto de Investigación Nutricional (IIN) in Lima, Peru, and INCAP and CeSSIAM in Guatemala. ADDR has also established linkages with a large number of institutions in developing countries as listed in the ADDR Annual Report 1991, pp. 171-2. Some of them already have significant experience in diarrheal disease research, e.g., ICDDR,B. A number of others have the potential to facilitate research capacity building and for making it sustainable.

**CONCLUSIONS:** Criteria for selecting countries, institutions, and scientists for ADDR projects are sound, have been well tested over the life of the Project, and are flexible enough to be adapted to local circumstances. The Project's experience indicates that concentrating on promising investigators, particularly those with postgraduate degrees, in one or a few good institutions leads to better research than awarding grants to investigators dispersed in a number of institutions in a particular country. The Evaluation Team understands that ADDR's approach in Pakistan and Nigeria represents necessary exceptions to this methodology. In Pakistan, the USAID mission is positive about this broader involvement.

**RECOMMENDATIONS:** The Evaluation Team recommends one new criterion for countries: Selecting countries with an established program of diarrheal disease prevention and control. Where the study requires it, we also recommend selecting those institutions that already have the needed equipment, instruments and materials to implement research. Further, the Team urges caution in supporting investigators who are dispersed across a range of institutions, some without a research tradition.

## 5. Transfer of Skills

The teaching-learning process induced by the application of the ADDR methodology, which produces self-reliant investigators, is perhaps the most significant transfer of research skills resulting from the Project. In this sense, ADDR is a great success. The scientists involved in this process refine their original ideas, express them better in their proposals, improve them further through peer review of research manuscripts, and present the outcome of their studies at national and international meetings. Some evidence of transfer of skills can be elicited from the section on Effects of Results of the November 1992 self-evaluation reports. For example, we could cite grant 047 (Indonesia), grants 009-076 (Mexico), grant 078 (Mexico), grant 023 (Peru), grant 097 (Nigeria) and grants 036 and 035 (Pakistan).

More specific examples of the transfer of technologies include: 1) the adoption by the IMSS research team in Mexico of more sophisticated randomized controlled intervention designs; 2) the use of more complex types of regression techniques by Lanata in Peru and Ekanem in Nigeria; and 3) the progression from descriptive to experimental research designs by the Indonesian and Thai groups (Gani, Ratna, Budiono, Wandee, Arunee, and Sumitr).

The fact that at least 17 ADDR-supported research teams have published their studies in journals listed in the Index Medicus reflects the quality of the science included in them and the skills transferred to the investigators. Improved oral presentation of the design and outcomes of some of the studies -- including more clear and better organized overheads -- as well as written reports, can also be considered a sign of the transfer of skills promoted by ADDR.

Other expressions of the transfer of skills are the teaching of undergraduates or postgraduates on the significance of diarrheal disease research for the prevention and control of these conditions. Pakistan is a good example. This process will certainly contribute to the advancement of young researchers.

The use of ADDR's methodology for designing studies on other topics such as ARI, micronutrient deficiencies, malaria, or a combination of them, and the successful implementation of the proposals will reflect again an effective transfer of skills. ADDR investigators in Pakistan are apparently developing their own proposal development workshops and need documentation on the workshops from ADDR to do this effectively. Obviously, it is too soon to evaluate the outcome of this aspect of the transfer of skills, but it looks promising.

Management of diarrheal disease programs, including skills transfer, should be a subject of research. The different phases of the ADDR methodology could be examined on the basis of available experience and specific innovations to select the most cost-effective approaches.

The system of support for developing and implementing research proposals should not be rigid but subject to periodic reviews for improvement.

**CONCLUSION:** There is clear evidence that the ADDR Project produces an active transfer of research skills in every phase of its methodology; however, there is a need for much more documentation of the methodology involved and experience gained.

**RECOMMENDATIONS:** The Evaluation Team recommends that ADDR document its methodology so that others can apply it (as in Pakistan where investigators are already eager to do so.) Equally important, ADDR needs to review thoroughly its methodology and look for ways to improve it. ADDR then should determine if its current approach is cost-effective or if there are revisions that might make it even more effective and also efficient.

## 6. Individual Career Advancement

While the ADDR Project has not yet developed a system to track career advancement, there is evidence from grantees in several countries of the Project's impact on their scientific careers as stated in the November 1992 self-evaluation reports:

In Thailand, the grantees called attention to improved coordination of the medical and social sciences, to the fact that they have lectured on nutrition and research methodology, and presented the results of the studies in local, national, and international meetings. Further, the grantees had organized research development workshops for 400 health professionals.

In Indonesia, grantees cited better collaboration between the health and social science disciplines. The researchers were able to attract students of medicine and anthropology to work on their study. Several grantees referred to their recognition and improved standing in the university or institution supporting the investigation. The publication of research results in an international journal had an impact on their scientific career.

In Mexico, one of the early ADDR grantees became Coordinator of the Inter-institutional Committee for the prevention and control of diarrheal disease at the Ministry of Health. Another is Head of the Department of Research at IMSS. A third investigator stated that the project enabled him to complete his Ph.D. thesis at Cornell University combining international nutrition, medical anthropology, epidemiology and clinical pediatrics. There is also reference to the sense of independence induced by the ADDR grant that further contributed to increased prestige of the researcher in the institution.

The Evaluation Team understands that not all the factors reflecting career advancement as reported by the investigators are objective, but a number are. We urge the Project to develop a system for monitoring career development. As suggested during the Team's discussions with the HIID staff, such a system could be based on periodic monitoring of career progress (or lack thereof) of a sample of funded and unfunded investigators. Some of the indicators that could be used are listed in the Criteria for Evaluating ADDR Awards in Appendix J of the Proposal for Follow-on Activities. Among the indicators that should be used are: improved research capacity, improved standing and position in universities or institutions, greater influence or involvement in decision-making and management, publications in national and international journals, and the attraction of more young scientists to applied research in diarrheal disease and other health issues of importance for the country.

Such an exercise could be carried out by ADDR and financed by A.I.D. If this proves unfeasible, the Project should seek funds from other sources. The information may help to show a very important outcome of the ADDR Project.

Appendix 10 presents some characteristics of 95 grantees. Most of the investigators (71 percent) come from the clinical sciences, and about 40 percent of their time is devoted to research.

**CONCLUSION:** While ADDR does not yet have a formal system for tracking career advancement, the Project has begun collecting information from investigators on some of the effects of the Project through the self-evaluation questionnaires. The responses from these questionnaires and the field visits provide clear signs that the Project has already had a significant impact on the scientific development and standing of the investigators.

**RECOMMENDATION:** The Evaluation Team recommends that a system to monitor the progress of the investigators be designed and implemented, including improvement in research capacity, change in status or positions in education and management, publications, and the attraction of more young scientists to research, in order to document the effectiveness of the Project. A.I.D. should increase funding to implement this recommendation.

## 7. Dissemination

ADDR has devoted considerable attention to working with the investigators to ensure that the results of the various studies are documented and disseminated. Assistance is provided to the investigators in reviewing and editing the research manuscripts and in encouraging that presentations also be given. In the Project's Handbook for Grantees, investigators are asked to report on their efforts to communicate their research results to government officials and, specifically, to describe contacts with ministries of health or other policy-making organizations and participation in policy discussions or conferences. The Project staff also stresses the importance of dissemination of research results in the proposal development workshops. The Project devoted part of a data analysis workshop to report writing (Indonesia, August 1989). During this workshop, staff worked with the investigators to prepare abstracts, executive summaries and research articles, and to give oral presentations using overhead projections.

The self-evaluation questionnaires sent to all investigators in August 1992 asked for updated information on presentations, publications, and manuscripts as evidence of the impact of research results on health policy, programs, or behavior changes. As shown below and reported elsewhere in this report, there is evidence that some investigators are making an effort to get their results to policy makers and to have an impact on programs.

Table 6

Percentage of ADDR Investigators Who  
have Disseminated their Research \*

<u>Avenue for Dissemination</u>	<u>Percent</u>
Local presentations	89
International presentations	70
Summaries for policy makers	33
Local publications	66
International publications	39
Other publications	65
Chapters in books	43
Books	16

\* Based on 95 responses to the self-evaluation questionnaire as of January 1993.

The above table indicates that impressive numbers of the investigators have published material on their research. Further, the ADDR Annual Report 1991 presents an extensive list of publications. Most of the publications have appeared in national journals, and significantly fewer were published in peer-reviewed journals.

The Project staff sees two models to promote dissemination of research. The first is by sponsoring manuscript writing workshops in which the authors are asked to complete manuscripts during the workshop. The second model involves emphasizing writing for publication at the data analysis workshop, but not including the actual report writing at the workshop. The Evaluation Team believes that a single workshop devoted to both data analysis and report writing should be feasible and effective, but, as already stated, ADDR needs to give more attention to developing the curricula for such workshops.

The ADDR Project staff itself has made a concerted effort to publish the results of the program and to disseminate information about the program. The Project's annual report has been used as a principal tool for providing information about the program. Staff have contributed articles to both Dialogue on Diarrhoea and Bridge. Further, the Project has contributed substantially to special editions of Social Science and Medicine, Acta Paediatrica Scandinavica, and Review of Infectious Diseases.

Other dissemination efforts have involved sponsoring the attendance of researchers at various conferences including the Asian Conference on Diarrheal Disease, the African Conference on Diarrheal Diseases, and support for other conferences and special conference sessions.

As was discussed in the 1990 evaluation of ADDR, the project has been quite successful in communicating the results of research to other researchers in both the emphasis countries and internationally. As is noted elsewhere in this report, insufficient attention has been

egiven to making sure that policy makers and national CDD program managers are aware and use the results of ADDR-sponsored studies. ADDR plans to sponsor a conference in the next two years on the links between research and policy to help bridge the gap that exists by presenting case studies of the more successful efforts. The new Cooperative Agreement for ADDR devotes an entire section to the application of research results. The work scope presents various activities that the Project intends to support to accomplish this.

**CONCLUSIONS:** ADDR has been quite active in promoting the dissemination of research funded by the Project. These efforts have been most successful in reaching other researchers. The project has not yet responded adequately to the recommendations in the previous evaluation about the need to work more closely and systematically with policy makers and program managers to increase the likelihood that results of the studies will be applied.

**RECOMMENDATIONS:** ADDR should devote greater effort to its dissemination activities as is indicated in the new CA. Workshops should be sponsored that cover both data analysis and also dissemination (report writing and presentations.) Further, dissemination should be stressed at all project phases starting with the initial proposal development and must go beyond producing publications to getting the results to policy makers.

## 8. Linkages Between Research and Programs

In general, most of the studies sponsored by the Project are applied in nature, responding to A.I.D. Child Survival Policy and to the principles of "Essential National Health Research" (ENHR), namely, capacity building and institutional strengthening. "The ENHR process aims to tie together research, policy, and action with the social and medical disciplines working together to make this happen."<sup>4</sup> The ADDR-supported studies also have or could have clear policy implications to reduce morbidity and mortality due to diarrheal disease in developing countries.

All of the ADDR-funded studies have had the approval and support of A.I.D., both in Washington and at the local missions. In Pakistan, the USAID mission has funded most of the Project's activities in that country.

The Evaluation Team considers that all ADDR-sponsored studies fall into the category of essential health research. A number of the investigators had experience in this area, as is the case of those from Pakistan, Nigeria and Mexico. Furthermore, in Mexico, investigators sit on inter-institutional national diarrheal disease committees. As has been mentioned, one of investigators subsequently became the coordinator of national programs for the control of diarrheal disease. Similarly in Pakistan, ADDR grantees review national health policies with staff from the Ministry of Health. In Nigeria, representatives from the Federal Ministry of Health, USAID, and UNICEF, ranked research proposals, a useful mechanism to make them aware of the potential significance of the outcomes for policy and program formulation in diarrheal disease. In Ghana, a similar approach was taken by the Health Research Unit of the Ministry of Health.

---

<sup>4</sup> Patricia L. Rosenfield. "The Potential of Transdisciplinary Research for Sustaining and Extending Linkages Between the Health and Social Sciences." *Social Science and Medicine* 35 (1992): 1-15.

Throughout the life of the ADDR Project, linkages to ministries of health, research institutes, universities, professional associations, and other research centers and organizations (some of them NGOs) in the emphasis countries have been established. They are listed in the ADDR Annual Report 1991 (pp. 171-172). There is not much information on these relationships. We can assume that, at least, the corresponding institutions in each country were informed about the objectives of every study and how it was to be developed. We are not certain whether the government officials in every case were consulted, informed or participated in the development of the ADDR methodology. As discussed elsewhere in this report, the Evaluation Team believes that they should.

While the topical focus of ADDR-sponsored research was relevant to program needs, the efforts to truly link research and programs has been occasional and inadequate. The 1990 evaluation of ADDR strongly urged the Project to give greater attention to this aspect of the program, but the evidence that this recommendation was followed is lacking.

One way of enhancing the linkages between researchers and policy makers involves keeping policy makers and program managers regularly informed about important project developments. This communication is especially important when policy makers and program managers have participated in the selection of research priorities or have been informed about research questions being investigated. Translating research results into policies and programs should become a regular activity. Investigators and decision makers should be jointly involved in this basic objective of the ADDR Project.

Because most of the studies sponsored by ADDR are subject-specific and implemented with small grants, the Evaluation Team believes that most, if not all, of the decisions to incorporate research outcomes into CDD programs require changes in norms, methods, procedures or guidelines that can be made by program managers and not necessarily by the highest authorities in health. Under these circumstances, investigators and managers should work together to write or otherwise translate the research results into policy and program changes as appropriate. Such a procedure should be followed for all new ADDR-supported studies. Furthermore, this procedure should be considered in the case studies of the links between research and programs that the Project is planning for the follow-on activities, particularly with regard to the use of research results and methods for the elaboration of health policies.

ADDR is planning an International Conference on Research and Policy. The Evaluation Team agrees with the objectives for this conference, but expresses concern about implementing it in 1993. It may be premature because of the lack of a number of case studies on the linkages of research to policy and behavioral changes.

**CONCLUSIONS:** There is evidence in some emphasis countries (e.g., Mexico, Pakistan, and Thailand) of linkages between the ADDR-supported research and program concerns, particularly of A.I.D. and ENHR. Despite the strong urging in the previous evaluation, there is little evidence of the Project's systematic attempts to encourage investigators to work together with policy makers and program managers in translating research results into policy and program changes.

**RECOMMENDATIONS:** In all new studies sponsored by the Project, linkages between the research and programs should be developed from the inception of each investigation to

increase the likelihood that the studies will have an impact on policy and program formulation and on the implementation of diarrheal disease programs and other priority health issues. The Evaluation Team endorses ADDR plans for evaluating the impact of its efforts (Trostle, February 1993) and also recommends that the planned conference on research and policy be held after 1993 to ensure adequate time to prepare case studies.

#### 9. Evidence of Capacity Building

The Evaluation Team finds that the ADDR Project has contributed to research capacity building through diverse mechanisms in a number of developing countries. These various mechanisms include raising awareness of the importance of research for the prevention and control of diarrheal disease and attracting the interest of actual and potential investigators in the countries where the ADDR Project has been active. The Project assists investigators through the application of a systematic methodology for framing questions, designing proposals, improving, funding and implementing them, as well as disseminating their results. The goal is to make the investigators self-reliant.

In addition, ADDR has helped create an interdisciplinary approach to diarrheal disease research linking the clinical, epidemiological, and social sciences. This is still far from a true integration of all disciplines related to the causes, determinants, and consequences of diarrheal disease. Rosenfield calls it transdisciplinary research and requires the investigators "to work jointly using a shared conceptual framework drawing together discipline-specific theories, concepts, and approaches to address a common problem."<sup>5</sup>

The ADDR-supported studies have added significant knowledge to the four major research areas of the Project. A number of investigators have been successful in linking research outcomes to policy and program formulation. Further, by applying the ADDR approach, the Project has also stimulated new and/or second-round proposals to examine additional questions on diarrheal disease as well as other prevalent health problems such as acute respiratory infection.

In a number of instances, ADDR's assistance has extended to the provision of journals, essential laboratory equipment, computers, and software. All investigators received scientific articles related to their studies. Finally, the Project has facilitated the dissemination of results in peer-reviewed journals and national or regional publications and through presentations at conferences or workshops on diarrheal disease.

The Project has not supported formal training of ADDR investigators other than through the proposal development workshops and data analysis workshops. There has clearly been a need expressed both by ADDR staff and consultants and by the investigators themselves for additional training. It would be highly desirable for A.I.D. to provide supplemental funds for support of advanced training in specific areas of the biomedical, epidemiological and social sciences. Support for short courses should be considered for those investigators with the greatest potential of becoming self-reliant. Project staff knows who these investigators are, but ADDR lacks resources for such training.

---

<sup>5</sup> *Ibid.*, pg. 9, Table 3.

The ADDR approach is so different from that of any other within A.I.D. and has been so outstandingly successful in achieving its initial objectives, that more thorough documentation of both the process and the results is important. ADDR staff needs to document the proposal development workshop process and its results. The staff also needs to systematically assemble evidence of success in personnel development, institutional development, and policy and program influence of the funded research. Such an effort should be supplemented by the kind of site visits that were carried out by the Evaluation Team. Perhaps, in 1996 the ADDR Project and A.I.D. should conduct an external evaluation of the follow-on that focuses on the broad spectrum of results at the field level. Outcomes rather than management and process should be a central focus, and the evaluators should visit those countries where the Project has been most active. The ADDR Project should begin now to collect information on its impact so that the evaluation of the follow-on CA could look effectively at the broader spectrum of Project results.

**CONCLUSIONS:** ADDR grants have significantly contributed to research capacity building through diverse mechanisms in a group of developing countries, thus benefitting investigators and their institutions and, to some extent, decision makers and program managers. Although it was recommended in the 1990 evaluation, ADDR has not documented sufficiently its approach to capacity building. There is an additional need to support training for the most promising investigators beyond the training provided through the ADDR workshops.

**RECOMMENDATIONS:** The Evaluation Team recommends that the ADDR Project explore the possibility of introducing the transdisciplinary approach to the methodology for designing studies on diarrheal disease. It is also recommended that additional funding be provided to ADDR to support a limited amount of additional training in the biomedical, epidemiological and social sciences. If additional resources are not possible, ADDR should work with other donors to support these further training needs. ADDR should systematically collect information on the broader spectrum of results of the Project that cover personnel development, institutional development and policy and program changes. Further, A.I.D. should plan an evaluation of the follow-on CA that looks at the broader outcomes of the Project.

#### 10. Evidence of Institution Building

The Evaluation Team is convinced that improving the research capacity of the investigators is the major factor for strengthening the institutions to which they belong. As stated previously in this report, the ADDR methodology contributed significantly to improving the ability of the ADDR-funded investigators to frame research questions on diarrheal disease, design studies, implement them, and publish the results. A number of the investigators believe that they are now capable of designing their own new studies in diarrheal disease or other health issues. Furthermore, in the self-evaluation reports, the investigators show how ADDR has contributed both to the growth of their careers and of their institutions. More specifically ADDR support has contributed to: 1) increasing staff participation in research (Hospital Infantil de México), 2) three additional proposal development workshops on different topics using the ADDR model (Udayana), 3) keeping researchers employed (PRISMA Association), 4) maintaining a focus on diarrhea research (IMSS), and 5) in general, enriching the institution with new research skills stemming from the ADDR methodology.

Although not its main objective, the Project has provided laboratory and computer equipment, including software, to a number of countries as detailed in Appendix 11. Ten percent of each grant goes to the institution as overhead. The Project finances conferences for specific activities, although as a matter of principle no block grants have been provided.

Resident advisors (RAs) in Pakistan and Nigeria are essential to the process of institutional strengthening given the size and scope of the activities. They can guide the ADDR consultants more effectively as well as facilitate study design and implementation because they are familiar with the "research culture" in each country and how it is reflected in the behavior of decision makers and investigators. However, these RAs must take care not to interfere with local initiatives to frame new questions on diarrheal disease or other health issues or formulate new proposals. Per their mandate, RA's should support investigators to seek other funding sources and assist them in developing their institution's research community.

**CONCLUSIONS:** ADDR has contributed significantly to institution strengthening mainly on the basis of increasing the research capacity of the investigators so that they become self-reliant. In selected cases, the Project has provided laboratory and computer equipment, including software.

**RECOMMENDATIONS:** The Evaluation Team recommends that the approach to institution strengthening through capacity building of investigators be continued during the follow-on activities. The Team also endorses the role of ADDR's resident advisors, particularly their ability to provide needed technical assistance, while not interfering with the initiative and self-reliance of the local investigators.

#### 11. Sustainability of Capacity Building

The Evaluation Team differentiates functional or operational, financial, and political sustainability in examining the ADDR Project. Functional sustainability is directly related to capacity building leading to self-reliant investigators. The Evaluation Team strongly supports ADDR's approach in guiding the investigators through the different phases of the methodology without interfering with their intellectual autonomy and the sense of ownership of their study. Investigators become self-reliant when they are able to design new proposals and succeed in getting funding from national or international sources. As mentioned previously, some of the investigators have obtained ADDR funding for more than one study (the second always better than the initial one); several investigators have received subsequent funding from other sources, including WHO and UNICEF, and there is a distinct possibility that investigators will request and obtain financing from other sources. In this sense, the Project has been a success in its short life and has the potential of becoming sustainable. These are solid bases to build up functional sustainability.

In developing countries, financial and political sustainability are closely connected, particularly in the least developed ones. If there is no "research climate," a reflection of a lack of interest and support from government and non-governmental organizations, it will be difficult to implement studies with local resources. Still, research can be developed with external assistance. However, there is great risk that it will not continue when the outside resources are withdrawn and this has occurred repeatedly in the past.

Political events can have great influence on the sustainability of research. In the life of the ADDR Project, assistance was suspended to Thailand after the military coup; researchers at the IIN in Peru could not continue full-time careers because of political upheavals. In Nigeria, political instability induced some ADDR investigators to accept positions abroad, a significant loss to the research community. Because of the relatively small number of countries included in the Project, these events have had a serious impact. On the other hand, the Center for Child Survival in Indonesia, Aga Khan University and King Edward Medical College in Pakistan, Mahidol University in Thailand, CeSSIAM in Guatemala, IMSS in Mexico, and PRISMA Association in Peru are positive examples of institutions strengthened by the Project.

**CONCLUSION:** As the ADDR Project promotes the self-reliance of investigators, improves their capacities for conducting research, and emphasizes the policy implications of the research, the Project's approach should lead to sustainability. There is good evidence for sustainability in Mexico, Pakistan, and Thailand.

**RECOMMENDATION:** The Project should continue stimulating investigators to design sound studies and guide them to obtain funds from other sources. Since other funding is limited to local funds and international agencies such as WHO and UNICEF, and that these sources are unlikely to provide significant levels of assistance, it is recommended that A.I.D. stay the course and continue to provide assistance for diarrheal research, given its major impact in developing countries.

## 12. Indicators of Success of ADDR's Research Grant Program

If the success of the ADDR Project is to be measured in terms of the ultimate goal, namely reducing morbidity and mortality rates through interventions based on research outcomes, the Evaluation Team believes that time has been too short even in the emphasis countries to show concrete results. The fact is that only in a few instances have outcomes of the studies been introduced into the series of interventions for controlling diarrheal disease.

On the other hand, if the major objective of the Project is the formation of self-reliant, independent investigators by learning the ADDR methodology, as the Team believes, then there are clear indicators of success. These include:

- a) The ADDR methodology has been the basis for capacity building as recognized by a large number of investigators in the self-evaluation reports. Without it and the funding of the projects, they could not have developed their studies. A true process of transfer of skills has occurred.
- b) By January 1993 and after seven years, ADDR had funded 117 research studies (101 on diarrheal disease, 9 on ARI and 7 on nutrition) in 12 developing countries and established a network of 306 investigators. Communication links exist among scientists, consultants, institutions, and ADDR management.
- c) Fifteen groups have designed new projects on diarrheal disease and received a second round of funding from ADDR (see Appendix 13).

- d) A small number of ADDR researchers have studies supported by other sources including WHO and UNICEF. Some focus on the treatment of persistent diarrhea based on a common algorithm being applied in six centers. It is reasonable to expect that the more self-sufficient the investigators become, as reflected in well designed new studies, the more they will be successful in obtaining funding from different sources. Such examples would suggest sustainability of research endeavors after the Project ends.
- e) Young scientists have been exposed to the ADDR methodology through the proposal development workshops and by active participation in the implementation of the studies, as well as having been co-authors of the publications. At the IMSS in Mexico, five of them have become full-time junior investigators. As ADDR does not yet have a system to track career development in each country, there is no information of similar results in other countries. Already in Pakistan, ADDR methodology is having a multiplier effect through its application in developing other young researchers.
- f) The ADDR Project has clearly contributed to the career development of the investigators. Their standing in the institutions has improved and a number of them have moved to higher positions in research or administration. The case of Mexico is a good example.
- g) A significant number of studies completed have been published: 60 in peer-reviewed journals, 23 in local publications, and 37 in international journals. There is no information on how many of them have been cited at the national or international level, an expression of their importance. However, it is to be expected that some results may stimulate the imagination of the readers and induce them to design new studies, because this is one way that science evolves.
- h) Results have also been disseminated in national, regional or international conferences and workshops on diarrheal disease. Two examples are the Asian Conference on Diarrheal Diseases (ASCODD) and the African Conference on Diarrheal Diseases (AFCODD).
- i) There is some evidence in the self-evaluation reports that the studies have also been disseminated in graduate and post-graduate courses. In addition, the routine teaching of physicians has been improved because of material covered in ADDR's proposal development workshops. The involvement of young researchers in investigations has, in certain cases, led them to obtain their Master's or Ph.D. degrees.
- j) The better the capacity of researchers, the stronger the institution becomes. This has been the approach of the ADDR Project to institutional strengthening. Only in some cases have essential laboratory equipment, computers and software been provided. All investigators have received scientific information related to their studies.
- k) The Evaluation Team emphasizes that the ADDR Project has enriched Essential National Health Research in developing countries.
- l) While the Project stresses the importance of dissemination of research results, the linkages between research and policy and program implementation are tenuous. A number of the studies have clear policy implications so that, if translated into

interventions, they could have a clear impact in the control of diarrheal disease. This area cannot yet be included as an indicator of success for ADDR.

**CONCLUSION:** The Evaluation Team concludes that there are many indicators of success of ADDR's research grant program if the major objective is the formation of self-reliant, independent investigators. These include introducing a large number of investigators to research at the proposal development workshops, the large number of funded studies, contributions to the career development of the ADDR-supported researchers, the number of published articles, especially those in peer-reviewed journals, and the number of investigators that went on to design additional protocols and to obtain additional research support on completion of the ADDR grant.

**RECOMMENDATION:** The Evaluation Team recommends that ADDR do more to track the Project's success and suggests using some of the indicators mentioned in the report as a starting point to document the effectiveness of its approach.

### C. Coordination and Collaboration

#### 1. Evidence at International and National Levels

Significant progress has been made by the ADDR Project in coordination, an essential area of activity identified by the Evaluation Team in 1990. As recommended, coordination and collaboration have been developed through a network or partnership, including a number of A.I.D.-supported diarrheal disease research and control programs. A system for information exchange has been created that focuses on activities and outcomes of interest to all participants. The system is effective because it involves a voluntary partnership among the institutions and is not rigidly structured or mandatory.

The meetings of the Diarrheal and Respiratory Disease Research and Coordination Committee (DRDRC), including ADDR, WHO/CDD, ICDDR,B and A.I.D. are a very successful effort. The initiative came from A.I.D./Washington's Office of Health. At each meeting, there is an active exchange on what is being done and what is planned, thus avoiding duplication, and perhaps more importantly, joining efforts and increasing the benefits for the host country and the collaborating agencies. This type of coordination through sharing information on the basis of a voluntary partnership is sound and effective. Examples of significant outcomes of this coordination are ADDR's decision to expand funding in Africa, and ICDDR,B's assistance to a number of Latin American countries in the control of the cholera epidemic and also becoming a training center for ADDR investigators. The Evaluation Team strongly recommends this process continue. The Project should also coordinate with other multilateral (such as UNICEF) and bilateral agencies with important programs of technical and financial assistance for the control of diarrheal disease.

Another outstanding example of coordination is the Multi-Center Trial of the nutrition-based Algorithm for Management of Persistent Diarrhea being carried out in six countries and supported by ADDR and WHO/CDD staff as well as selected short-term consultants. The approach from conceptualization to operation, including a conference and proposal development workshop, could serve as a model for future joint efforts of ADDR and WHO dealing with other priority diarrheal disease problems. WHO and ADDR plan to continue

various collaborations such as the exchange of workshop agendas and bibliographies, joint WHO/ADDR/INCLIN (International Clinical Epidemiology Network) workshops on prescribing practices, co-funding drug intervention studies in Lima, Peru, and sponsoring a local ADDR/WHO investigators meeting in Mexico and other joint activities.

ADDR and ICDDR,B have also established a very effective collaboration for training based on ICDDR,B's sound experience in field epidemiology, laboratory sciences, clinical case management, and health surveillance. A number of scientists from developing countries, particularly Asia, have improved their knowledge in these fields at the Center. Cholera prevention, diagnosis, and treatment is also a focus of cooperation, again because of the enormous experience that ICDDR,B has in all aspects of this condition. Scientists from ICDDR,B have also assisted the Cholera Task Forces in Ecuador and Peru to reduce the impact of the epidemic. Besides direct technical assistance, control manuals prepared in Bangladesh were adapted to local conditions and translated into Spanish. ADDR intends to extend this type of collaboration to investigators from Africa and Latin America where the cholera pandemic is still prevalent.

Examples of coordination involving international institutions also exist at the national level. In Nigeria, the National Capacity Building/Child Survival and Development Committee (NCB/CSD) involves not only the Ministry of Health, four universities, state and local governments, but also A.I.D., UNICEF, WHO, ADDR, and other international donors. Furthermore, ADDR investigators collaborated extensively in the AFCODD conference held in Lagos in mid-1992. Because of the coordination, each of the agencies mentioned (with the exception of the universities) have contributed to the conference expenses.

In Pakistan, there is close collaboration between ADDR, the A.I.D.-funded Child Survival Project, UNICEF, and WHO. A second workshop has been jointly organized to develop a broader range of child survival activities such as nutrition and ARI. It is expected that all these efforts will have policy implications. The Asian Conference on Diarrheal Diseases (ASCODD), held late in 1992 also reflected the active participation of ADDR investigators and participants from other national and international agencies.

In Ghana and Ecuador, collaboration between ADDR and UNICEF is being considered. These experiences may establish an approach to be followed in other ADDR emphasis countries.

Examples of effective collaboration at the national level include: 1) the use of the diarrhea newsletter in Indonesia by Dr. Yati; 2) the annual diarrheal disease meeting held in Thailand and actively supported by ADDR investigators such as Wandee, Arunee, Sumitr, and Chanpen; 3) the IMSS group's growing involvement with national CDD policy under the Ministry of Health in Mexico; and 4) the services rendered by various IIN investigators -- Paredes, Jacoby, Benavides, Penny -- to the Peruvian CDD and cholera control programs. Another example of this type of coordination (mentioned previously in this report) is the inter-institutional committee in Mexico for planning and implementing diarrheal disease prevention and control. An ADDR-funded investigator has been a key player on this committee.

Several additional examples can be cited with reference to methods of coordination and research results. In Nigeria, ADDR investigators serve on editorial boards and policy

committees, e.g., Nike Grange has been a UNICEF consultant, a member of the AFCODD organizing committee, and a coordinator of the National NCB/CSD committees. Ekanem serves on the editorial board of the Nigeria Bulletin of Epidemiology published by the Ministry of Health in collaboration with CCCD. Individual researchers have involved policy makers or other implementing agents in their work, e.g., Igun's efforts to have the Pharmaceutical Society of Nigeria participate in his intervention study. Nigeria's National Information System Project has received technical assistance on request from ADDR/Cambridge on funding methods. ADDR has also suggested names and presentation topics for the Nigerian participants in an upcoming CCCD meeting on child survival themes in West Africa.

Concrete cases of coordination and communication by investigators with national and international organizations could be cited. WHO has funded studies by a number of ADDR principal investigators such as Lanata, Paredes, Maulen, Salazar, Penny, Alarcón, Martínez, Grange, Odalepo, Oyejide, Molla, Kahn, and Gul. In the field of prescribing practices for appropriate case management of diarrheal disease, scientists such as Paredes in Peru, Bhutta in Pakistan, Wandee in Thailand, and Gani and Santoso in Indonesia, have become consultants to their Ministries of Health in program design and evaluation.

A number of investigators review research proposals or advise on governmental policies in local, regional, national and international committees. Furthermore, ADDR scientists in Mexico, Nigeria, and Pakistan are involved in national research capacity building as recommended by the Essential National Health Research Program. In the organizing committee for the AFCODD, six out of ten members were ADDR grantees.

Several ADDR scientists serve on editorial boards of national research journals. Some of them like Paredes, Gani, Grange, and Gutiérrez have had their studies described in Dialogue on Diarrhea.

ADDR has also experimented with other coordination activities such as funding local investigators to hold meetings with provincial health authorities to establish research priorities (Nigeria, Grant #052) and co-sponsoring a national research consensus conference held in Pakistan in 1989.

There have also been important joint efforts for disseminating outcomes of studies sponsored by ADDR through publications of associated institutions or programs. Because of their importance, we cite the Journal of Diarrheal Disease Research of the ICDDR,B; Dialogue on Diarrhea published by AHRTAG and reaching more than 200,000 readers worldwide; PRITECH's Technical Literature Updated; BRIDGE, published by WHO, and Review of Infectious Diseases and its special issue on invasive diarrheas, shigellosis and dysentery.

**CONCLUSIONS:** Significant progress has been made in coordination and collaboration with a number of international and national agencies by the ADDR Project in the last three years. Various innovative and effective methods of coordination have been implemented. In addition, a process has been underway to improve coordination and communication by ADDR researchers with national and international institutions. It should continue during the follow-on activities.

**RECOMMENDATIONS:** The Evaluation Team recommends that the process of coordination and collaboration continue with ADDR, WHO, ICDDR,B and A.I.D., through the DRDRC meetings, given its importance for the CDD programs and the agencies involved. Joining efforts and resources increases outcomes and reduces costs. The Evaluation Team also strongly supports the continuation of the special collaborative endeavors between ADDR and ICDDR,B. Through other avenues (perhaps as a side meeting during the annual WHO donors meeting), the Project should also try to coordinate its activities with other multilateral (such as UNICEF and the World Bank) and bilateral agencies that have programs in developing countries that provide technical and financial assistance for the prevention and control of diarrheal disease. The relationships of investigators with national and international organizations at the country level should be promoted systematically for all ADDR-supported studies.

## **2. Areas for Improvement and New Areas of Coordination and Collaboration**

- a. **Diarrheal and Respiratory Disease Research and Coordination Committee:** A recurrent subject at the DRDRC meetings is the review of research priorities. There are already some positive results. One of them is the decision by the ADDR Project to extend the number of emphasis countries in Africa, not only because of urgent need, but also because other agencies in the field of diarrheal disease research did not include this region in their activities.

At one of the semi-annual DRDRC meetings, coordination workshops on key subjects were recommended, e.g., INCLEN and ADDR on prescribing practices. It was also suggested that the Project bring together investigators of similar studies it funds to analyze how their efforts can most usefully be focussed. These recommendations should be followed.

DRDRC meetings should also focus on linking research outcomes to devising policies and putting them into effect through relevant programs. The work scope for ADDR's follow-on project presents an interesting agenda including reinforcement of current activities, case studies, and an International Conference on Research and Policy. The Evaluation Team agrees with these proposed actions.

Given the need for additional resources to train ADDR-funded investigators (as discussed in the section on transfer of skills), information about training needs, opportunities and funding should be on the agenda of DRDRC meetings. WHO, UNICEF, A.I.D., foundations, and other sources could provide financing for this type of training for the best investigators. ADDR might design a research training program and seek other funding.

- b. **ADDR and other international agencies and projects:** The effective collaboration established between ADDR and UNICEF in Nigeria, Pakistan, and Thailand, and probably in Ecuador and Ghana in the near future, should be extended to other countries. Additional opportunities should be sought for more co-funding of projects, drawing from different institutional strengths, e.g., ADDR funding research costs and UNICEF funding costs of dissemination and communication activities. Collaboration with A.I.D.-financed projects, such as WASH and HealthCom during the Latin America

cholera program, involved staff and consultants from these projects conducting reviews of ADDR proposals. Such activities are in their early stages and can be improved.

A stronger association should be established with INCLEN given its emphasis on clinical epidemiology which is so essential for the prevention and control of diarrheal disease of different etiologies. One good past example is the jointly-sponsored pharmacoepidemiology workshop preceding the INCLEN XI meeting in Cairo.

- c. Better coordination among the agencies in terms of training materials and bibliographies for the different diarrheal disease subjects would benefit all groups. Each participating agency has its own training manuals, as expected. WHO has one being used by the CDD Division, with appropriate materials, in the proposal development workshops it sponsors. For the same objective, the ADDR Project has its own manual and materials. INCLEN has also prepared training manuals for its projects. Similarly, different groups develop their own bibliographies using different means and channels. For example, the International Network for the Rational Use of Drugs (INRUD) has a bibliography on prescribing practices, a subject of great importance for diarrheal disease case management.

There is an apparent need for coordinating these disparate sources of training materials and bibliographies and pulling together what is already available. Examples from the Population field are pertinent: the POPLINE bibliographic service (available now in CDROM) and Population Reports, comprehensive reviews of specific topics in population and family planning based on up-to-date publications.

- d. Dissemination of research results through national and international publications could be strengthened. Reference has already been made to information on the Project in Dialogue on Diarrhea, Bridge, HIID Research Review, and the INCLEN Newsletter. ADDR apparently plans more of this type of dissemination. Another approach, already tried in Indonesia, is to compile a list of important local journals and newsletters and distribute it to the investigators so that they can tailor their products to the requirements of these potential outlets. Similar lists have already been compiled and circulated for international publications. These approaches are useful because they reflect the need for using all channels of dissemination of the studies in order to raise awareness and foster application of their results.

### 3. Relationships of ADDR Investigators and Others

There is not enough factual information to answer this question properly, nor is it possible to generalize about these issues given the diversity of countries, regions, leaders, scientists, institutions, and communities involved in the ADDR Project. Assuming these are critical concerns, the A.I.D. might consider supporting special studies. For example, a study of the effects of research on communities would be very interesting. Since ADDR has supported a number of investigators who have conducted community-based research, this study would be possible. The list includes Drs. Ekanem, Mandhana, Marin, Martinez, Rasmussen, Rusdi, Sempertegui, and Sumitr. If research on the role of communities were supported, it should of course look at the application of results including policy and program changes.

There is no need to elaborate on the significance of informed and active community participation in essential health research. People should not be used to serve as subjects of studies without being informed of the results, what they mean, and what behaviors need modification. The longer the study, the more important the people's contribution, and the more difficult it is to maintain community interest and participation.

In general, investigators with good working relations with policy makers are those willing and able to cultivate these relationships. They usually have prestige in the scientific community so that their opinions are considered valid and should be taken into account in the decision-making process. Where researchers are employed in government ministries and institutes, communication with policy makers may be easier, but is still not guaranteed. This is the case of Muñoz in Mexico, Malik and M. Kahn in Pakistan, Sutoto in Indonesia, Nkwi in Cameroon, Afolabi in Nigeria, and Chanpen in Thailand.

More difficult to characterize are those investigators employed by universities or PVOs who nonetheless have good relationships with A.I.D., local leaders and various national and international institutions. Successful investigators in this category include Salazar and Lanata in Peru, Wandee in Thailand, Santoso and Yati in Indonesia, and Grange in Nigeria. They are involved in important national committees and are consultants for WHO, UNFPA, UNDP, or other international organizations. They play important roles in training and providing research opportunities for their local colleagues.

Given the lack of information, the Evaluation Team could not identify concrete cases of constraints in establishing productive relationships between project investigators and host country leaders, scientists, institutions, and communities. In the self-evaluation reports, the investigators refer to internal conditions such as the difficulty of finding cases of diarrhea to match the sample size, a reflection in Latin America of the successful mass media information policy sponsored by the government to control the cholera epidemic. They also refer to turnover of medical staff, particularly in studies to change prescribing practices. The researchers also point to political instability, the lack of trained personnel, and difficulties in obtaining supplies, but not specific constraints. In reference to PVOs such as PRISMA in Peru and CeSSIAM in Guatemala, no constraints were identified. Finally, in terms of relationships with communities, the Evaluation Team has already mentioned that special studies are required. Perhaps similar special studies are needed to determine the nature of the relationship between investigators and leaders, scientists, and institutions.

## **D. Organization and Management**

### **1. Organizational and Staff Structures**

- a. **HIID/JHU/Tufts Subagreements:** The organizational structure of the ADDR Project has involved a consortium of three institutions from its inception. The three institutions, Harvard Institute for International Development, The Johns Hopkins University, and Tufts University, brought different kinds and levels of expertise to the Project and together they have represented a strong technical capacity. Over time, the relative roles of the three institutions have evolved, as would be expected, with the most significant change being the increased role of the HIID core scientific staff in the project's implementation. The HIID staff has grown from two part-time scientists and four full-

time administrative staff to 6.1 scientists (two based overseas; measured in person-years) and six administrative staff. In all, over the 1985-1992 period, HIID staff contributed about 85 percent of all effort (measured in person-months), while JHU and Tufts contributed about 8 and 7 percent respectively<sup>6</sup> (see Appendix 14). The trend of the increasing role of HIID staff can perhaps best be seen in the changing proportions in the first ADDR Project's budget compared to the budget for the new agreement. In the former, staff salaries and fringe benefits represented about 18 percent of the budget compared to nearly 26 percent in the new agreement. In contrast the line item for subcontracts and research grants has decreased from 57 percent to about 41 percent.

The evolution in the roles of the three organizations has been determined in large part by the increasing size of the Project's research portfolio and the need for a core group of scientists devoted almost exclusively to managing the various project activities. A natural tendency as a project matures is to develop a strong centralized capacity to implement the project despite strong capability among subcontracting institutions. Coupled with this tendency has been a differing orientation of the participating organizations, especially about the approach that should guide ADDR in developing research (these differences were also discussed in the section on the ADDR approach on page 10). A.I.D. has been supportive of the capacity building orientation of the HIID staff that has left the research initiative with the local researchers and favored a greater number of small research grants. In contrast, the approach (supported by JHU) favors giving more assistance to researchers in formulating the key research questions in order to be more responsive to the needs of the national diarrheal disease control program and to produce important scientific results and funding fewer and somewhat more expensive studies. This difference in orientation has been openly expressed and has generally been considered constructive.

Over the life of the ADDR Project, each subcontracting organization has made important contributions to the ADDR program. Following the recommendations of previous evaluations, the subcontractors have concentrated on specific issues of diarrheal disease. Tufts has provided support to research on invasive diarrhea (principally shigellosis) and technical assistance to research efforts in Pakistan, Ecuador, Guatemala, and Mexico. Under the new agreement, Tufts will continue to provide expertise through a research team of four scientists headed again by Dr. Keusch. JHU has taken the lead in the research on persistent diarrhea and spearheaded a multi-center study of a treatment algorithm of persistent diarrhea. Further, JHU has considerable expertise in ARI and has helped develop ARI studies in Pakistan. JHU will also continue to provide expertise through a research team of six scientists directed by Dr. Black.

Each year, HIID takes the lead in developing the ADDR annual workplan. This plan determines the Project's objectives in a given year and which institutions and individuals from among the consortium will carry out the activities. The plan is reviewed in a joint meeting of all parties including the A.I.D. CTO. For the new project, HIID has only allotted or guaranteed time each year to the subcontract directors (Drs. Keusch and Black). All other subcontract staff will be supported as they spend time on the project,

---

<sup>6</sup> *The levels of effort are somewhat lower for each of the three institutions than had been planned originally with JHU's effort about 27 percent lower, Tufts 16 percent less, and HIID 10 percent lower than planned. Monies not spent on consortium staff appear to have been used to fund additional research grants and other forms of non-grant assistance.*

and there is in theory no upper limit on how much time. HIID has adopted this planning policy to retain flexibility in staffing assignments and in the level of expenditures. As a consequence, it is difficult for staff members of subcontracting organizations to plan their time. HIID has already experienced some problems in getting subcontractor staff to respond to requests for assistance, but without some minimum guarantee of time, HIID will probably continue to have difficulty drawing on staff of the subcontractors.

The Evaluation Team sees a continuing tension in the implementation of the ADDR Project in the role of the parties to the consortium. It is clear that HIID will play a more predominant role in the new agreement than it did in the past. This may tend to lessen opportunities for subcontractor initiatives (e.g., another multi-center intervention study). While A.I.D. may view favorably such an evolution in the relative roles of the three organizations, it should nevertheless consider the change and whether there may be undesirable consequences. For example, since JHU already has a strong capability in ARI on the basis of other support, it may be unnecessary and unwise for HIID to attempt to build up greater staff competence in this area given the very limited budget (\$250,000) for ARI-related research under the new agreement.

- b. Personnel (Staff and Consultants): The level of effort of HIID staff devoted to ADDR has increased over the life of the project. As was discussed above, HIID staff has increased from 2 part-time to 6.1 person-years in scientific staff. The Project may add an additional staff person to compensate for the transfer of Fitzroy Henry to Nigeria. In addition, HIID has six administrative staff: a project manager, an assistant grant administrator, an administrative assistant, and three staff assistants. The percentage time on the Project of the scientific staff is as follows:

<u>HIID Scientific Staff</u>	<u>Percent on Project</u>
• Richard Cash, principal investigator	50
• James Trostle, project scientist and anthropologist	100
• Maye Olivola, project scientist and physician/epidemiologist	100
• Johannes Sommerfeld, project scientist and anthropologist	80
• Guillermo Herrera, project scientist, physician, and nutritionist	20
• Karen Peterson, project scientist and nutritionist	10
• Jonathan Harrington, writer/editor	50
• Fitzroy Henry, project scientist, epidemiologist (based in Nigeria)	100
• Jon Simon, project scientist (based in Pakistan)	100
<b>TOTAL (in person-years)</b>	<b>6.1</b>

A total of about 1.4 person-years of scientific staff for the two subcontractors has been estimated for the first year of the new CA. The estimates shown below, with the

exception of the subcontractor directors, are used for planning purposes but are not actual commitments to support the time of these staff. Further, the areas of expertise indicated below are related to current or expected areas of contribution to the ADDR Project, and they are not inclusive of all areas of expertise of these individuals.

<u>Tufts scientific staff</u>	<u>Percent on Project</u>
• Gerald Keusch, subcontract director *	25.0
• Jeff Griffiths, physician, tropical medicine	15.0
• David Acheson, laboratory specialist	7.5
• Don Thea, physician, tropical medicine	7.5
 <u>JHU scientific staff</u>	
• Robert Black, subcontract director *	25.0
• Mark Steinhoff, physician and ARI specialist	15.0
• Robert Gilman, physician and cholera specialist (based in Peru)	15.0
• David Sack, physician and cholera specialist	7.5
• Deborah Helitzer-Allen, health communications	7.5
• M. Santosham, physician and ARI specialist	7.5
 TOTAL (in person-years)	 1.4

\* Both subcontract directors are committed to spending 12 weeks on the Project in years 1 and 2 of the new project, 8 weeks in year 3, and 4 weeks in year 4.

In addition to the staff of each institution in the consortium, the Project has called on the services of a range of consultants. For example, of 184 sites visits to investigators from 1985 to 1992, 63 percent involved consultants. Accounts from the Team's sites visits to Pakistan, Thailand, Guatemala, and Mexico, suggest that consultants as well as staff were very effective in providing technical assistance and contributing to the research development process.

In terms of the adequacy of staffing, HIID believes that current scientific staff is not adequate. This is not surprising given the large number of ongoing studies (56 as of June 1992), the number of additional studies that may be funded under the new agreement (estimated at 60-80), planned workshops for proposal development and data analysis, various synthesis and dissemination activities, and continued collaboration with WHO, ICDDR,B and other institutions. One particular need was raised concerning the impact of adding ARI studies to the ADDR portfolio under the new Project. Current core staffing at HIID is not adequate to handle a major effort in this area. Because it is unclear whether total resources devoted to ARI will be \$250,000 (as is now specified) or more, there is uncertainty about what level of effort will be needed. HIID staff did, however, point out that since the project is not geared up to work in ARI, the effort that will be required will be disproportionate to the funds available to support studies.

HIID staff also discussed the need to find more time for writing and especially synthesizing ADDR's work. It may also be necessary to hire a replacement for the staff person who is currently a resident advisor in Nigeria, in order to carry out the planned research development and monitoring work. More time may also be required of the writer/editor to assist the researchers who will be funded under the new project as well as those who are involved in ongoing research.

ADDR can look to the staff of the subcontracting institutions, as well as consultants, to fill in some of the gaps in staff needs. However, given the importance of maintaining a strong core staff, HIID may need to consider adding staff. The larger budget levels in the new CA suggest that the Project could afford perhaps one more position, but that may not be sufficient if the additional work related to ARI is as great as some staff now anticipate it will be. A general review of current staff levels and needs under the new CA should be carried out soon by A.I.D. and ADDR. The review should look at HIID's scientific and administrative staffing to determine whether these are appropriate. For example, the number of administrative staff seems high as a percentage of overall staff.

**CONCLUSIONS:** The consortium has contributed to the strong technical capacity of ADDR. The role of HIID staff working on the ADDR Project has grown considerably since the Project's early days, and HIID is expected to play an ever larger role in the follow-on project. The subcontractors have made substantial contributions despite relatively small levels of effort.

While the composition of the ADDR staff was sufficient to support the initial development of a research program in diarrheal disease, there is considerable doubt whether the current staffing will be adequate to handle new areas such as ARI and also carry out the numerous other activities in the work scope and those emanating from recommendations in this evaluation report. Further, given the Project's increased complexity and size, HIID may need greater effort devoted to technical management that is commensurate with this expanded role.

**RECOMMENDATIONS:** The Evaluation Team recommends that A.I.D. assess the implications of ADDR's evolution in terms of the present staffing levels and consider increasing the capacity to manage a technically complex and large program of research. A.I.D. and ADDR staff should conduct a hard-hitting assessment of the levels of effort required to accomplish all project activities over the coming years. It is likely that either the funding for additional staff will need to be increased or that the scale of the planned activities will need to be amended and perhaps reduced.

The Evaluation Team also recommends that ADDR hold a meeting as soon as possible with its full staff (resident advisors as well) and subcontractors to review the Project's priorities and assess what is realistic for the implementation of the work scope over the next three and one-half years of the new CA.

## 2. Internal Monitoring of Grants and Project Reporting

- a. **Internal Monitoring:** Internal monitoring of research grants is closely related to the Project's approach to supporting researchers at the various stages of the research process. Given the large number and small size of the studies, these monitoring and support

activities are intensive and designed to assist the researchers in the successful completion of research. The stages of the research development process described elsewhere in the report begin the process of careful, intensive monitoring and support.

An HIID staff member is assigned to oversee and manage the research portfolio in each emphasis country. Site visits to countries (by staff and consultants, see Appendix 15) have been an important aspect of ADDR's monitoring and support activities. A review of selected trip reports demonstrates the careful attention given to researchers needs and suggests good follow-up in providing additional assistance.

All grantees are required to submit annual reports on their research. (All reporting requirements are set out in a manual that is provided to all grant recipients.) Most payments are made to grantees in four installments. After the initial payment, submission of technical and financial reports is required for the release of funds. ADDR reporting procedures appear to be working well. Problems have been experienced in a few countries with getting funds promptly to the investigators (reported during site visits to Pakistan and Thailand), but these difficulties appear to have been resolved.

Given the growth in the portfolio of funded research studies, the current non-computerized system for monitoring grants is no longer adequate. The project manager is currently setting up a computerized system that is expected to facilitate monitoring of grants. New agreements will be entered into the system first, followed by older grants.

- b. Reporting: The reporting procedures for ADDR are adequate, and there were no major issues raised either in terms of the content or timeliness of reports. The principal reports are annual workplans, annual progress reports, quarterly financial reports, and trip reports. The annual workplans are prepared by the core HIID staff and are reviewed at a planning meeting. The workplans are then reviewed by the subcontractors and are used to determine the budget for each of the three implementing institutions. The A.I.D. CTO also reviews the workplans and has found them to be responsive to A.I.D.'s ideas and useful in setting out priorities and tasks. The new CA calls for semi-annual progress reports. The first one has not yet been submitted, but apparently plans are underway for its preparation.

The Annual Report describes all funded research projects and serves as a project brochure. About 300 copies are distributed to a list that is revised and updated each year. Recipients include all ADDR investigators, A.I.D./W staff, USAID missions and Ministries of Health in those countries where projects have been funded, and international organizations including WHO, UNICEF, and ICDDR,B. The Annual Report includes no financial information on the ADDR Project as a whole or on individual research grants. Such information is not included given concern about investigators' sensitivity to publicizing financial data. The Evaluation Team suggests that the report include several summary tables on the projects funded (by country and topic area), dissemination activities (i.e., published articles, seminars, etc.), and policy and program implications (to be gathered from investigators in the future) to give the reader a simple overview of the Project's scope and output.

As was stated above, a review of selected trip reports indicates that these are carefully prepared, useful documents. Authors of the reports have not used a consistent format

in the past, and some are easier to use than others. For example, one author includes a very useful summary section on proposed follow-up activities. According to the project manager, a guide to preparing trip reports using a standard format has been prepared for use by all staff and consultants. This format is intended to facilitate both project monitoring and preparation of the Annual Report.

Distribution of ADDR reports to USAID missions is usually adequate. However, given the variation in each mission's needs and changes over time in personnel, the A.I.D. CTO suggests periodic queries (e.g., once a year) of USAID missions' interest in receiving the various project reports as well as briefings during site visits by ADDR staff and consultants.

**CONCLUSION:** In general, the Project's procedures for internal monitoring and reporting are adequate. As the Project has grown in terms of the number of funded studies, it has become necessary to set up a computerized system for monitoring all grant actions.

**RECOMMENDATIONS:** ADDR should consider making a number of revisions in its Annual Report including adding several summary tables on the Project's activity and more specific information on the policy and program implications of the ADDR-supported studies. ADDR should also query the USAID missions about once a year to determine changes in the staff who might be interested in receiving key project reports.

### 3. The Relationship Between ADDR and A.I.D.

- a. **A.I.D./Washington:** The relationship between ADDR and A.I.D. is defined by the "Substantial Involvement" section of the Cooperative Agreement. Substantial involvement means that A.I.D., principally the CTO, is involved in the development and review of project plans, activities, research agreements, and so forth as well as the more administrative matters such as reporting on project activities and funding. As pointed out in the two previous evaluations, the role of A.I.D. improved markedly over the course of the project's first five years and by 1990 was fulfilling the spirit of the CA. Since the 1990 evaluation, A.I.D.'s role has, if anything, improved more. The current CTO, assigned to ADDR since December 1990, has established a productive, collegial relationship. Given her own research and field experience, she brings to the project an excellent understanding of the research issues and appreciates the strengths of the ADDR approach. Communication between ADDR staff and the CTO is regular and smooth. Project staff and the CTO have a mutual respect for each other's role in the project.

Only one area was cited as needing some improvement. It concerns the relationship with A.I.D.'s Regional Bureaus. It would be useful for ADDR to make an annual presentation to A.I.D./W staff on the work of the Project. The presentation should highlight recent results of the studies and the impact on CDD programs in various countries. This will ensure greater familiarity with the Project's activities and awareness of the research results and the implications for the policies and programs in the various countries.

- b. **USAID Missions:** To ascertain the relationship between the project and USAID missions, a letter was sent to eight key countries in August 1992. Five of eight missions responded: Bangladesh, Guatemala, Indonesia, Mexico, and Pakistan. The project

received high marks for the research topics that had been supported. All missions reported that the project was not a management burden. With the exception of Pakistan, where ADDR has a resident advisor, most missions said they were involved in the review and approval of research agreements, but that they were generally unaware of activities once research projects were approved. The prominent exception to this is Pakistan, thanks to the ADDR resident advisor, who keeps the A.I.D. mission fully informed of the project's work. (This presumably will also be the case in Nigeria, now that ADDR has a resident advisor there.) It seems that neither the ADDR staff nor the local investigators made sufficient effort to keep the mission informed or involved in the project's work. Several missions urged that more emphasis be given to involving ministry of health and national program managers in the research projects to facilitate the use of research findings. USAID/Pakistan commented on the appropriate emphasis given to this link and urged the continued involvement of government program staff. Further, USAID/Pakistan considered ADDR's in-country advisor as critical to the project's effectiveness.

The relationship between ADDR and USAID missions involves a delicate balance of keeping mission staff as informed and involved as they want to be, but not placing an undue burden on staff time. Based on the above, ADDR succeeded in limiting the demand on mission staff to the detriment of staff awareness of the project's work. As suggested in the section on reporting, ADDR should query the missions (perhaps using a check list) on an annual basis to ensure sufficient mission involvement. ADDR staff and consultants should make regular debriefings before they leave a country to inform mission staff about research progress. It might also be useful for ADDR staff and consultants to give short project summaries (no more than one page) on each project funded in that country emphasizing the potential or actual results and their application. Such brief summaries can in turn be used by USAID staff in giving their own briefings on ADDR Project activities and may serve to raise the level of awareness about the studies.

**CONCLUSION:** ADDR and A.I.D./Washington have an excellent working relationship, particularly under the tenure of the current A.I.D. CTO. In terms of the overseas missions, ADDR has placed no burden on staff time. At the same time and with the exception of Pakistan and probably Nigeria, USAID staff is generally unaware of the Project's work after an initial involvement reviewing and approving research proposals.

**RECOMMENDATIONS:** The Evaluation Team recommends that ADDR make an annual presentation to A.I.D./Washington staff on the progress of the Project, highlighting recent findings and the impact of CDD programs wherever possible. Where it is desired, ADDR staff and consultants should regularly debrief USAID mission staff before leaving the country in order to discuss recent progress on the various studies. They should also leave behind short summaries on each study in the country that they have visited.

#### 4. Technical Advisory Group

The evolution and contributions of the Technical Advisory Group are well described in the March 1990 evaluation of the ADDR Project. The valuable role of the TAG as an advisory group was recognized, but problems were identified in its role reviewing proposals. Up to this time, TAG members had reviewed the technical merit of proposals and had been involved in deciding which proposals should be funded (initially those over \$10,000; later

those over \$25,000). Given that the TAG met only semi-annually, its review role slowed down the review process. Over time, the TAG's technical review role was actually superseded by a more intensive, ad hoc ADDR review process that involved three external reviewers. Further, the ADDR review could take place as proposals were received. An additional problem with the TAG, described in the March 1990 evaluation, was the division between biomedical and social scientists. The division led to competition among types of research studies proposed and was counter-productive.

The March 1990 evaluation report called for changes in the role of the TAG. Principally it should not be formally involved in the review and approval of proposals. Rather its role should be to advise ADDR on overall program directions and technical issues. Further, "the TAG should offer guidance on the definition of measures that would lead to institutionalizing the local research capacity and to enhancing the prospects for multi-disciplinary research." Subsequent to the evaluation, the TAG's role was minimal. In fact, the TAG has not met since July 1990. This was in part because of the uncertainties about the future of the ADDR Project and because the TAG's role had changed and no longer involved review and approval of proposals.

The present Evaluation Team discussed the planned role of a TAG under the new Cooperative Agreement. ADDR intends to constitute a TAG, and has sent to the A.I.D. CTO names of potential members of the new TAG. A first meeting is planned for June 1993. ADDR and the A.I.D. CTO agree (the Evaluation Team concurs) that the new TAG should not be responsible for the review and approval of research proposals. Its role should be advisory by guiding the overall direction of the project and especially by identifying priorities for further investigation. The TAG would be small, with 3-5 permanent members. Membership would include diarrheal disease experts, those knowledgeable about capacity building and about linking research and policy, multi-disciplinary scientists, and scientists in developing countries. It was thought that someone with experience in synthesizing and evaluating the development of an organization like ADDR should also be considered for membership.

The Evaluation Team suggested that ADDR and A.I.D. consider a new arrangement in lieu of the TAG which would give the Project great flexibility. It was suggested that perhaps there should be no standing TAG and no set schedule of meetings. Rather, ADDR might benefit from sponsoring a series of small meetings on specific topics with appropriate experts who could be called on as needed. On the other hand, it was recognized that A.I.D. might need a formal TAG not only to guide the Project but also as an independent check on the Project's work.

**CONCLUSIONS:** While the TAG played a useful role in the Project's first five years, the dual roles of advisor and reviewer of proposals became cumbersome and unproductive. The TAG has not been active since July 1990. A new TAG is in the process of being appointed.

**RECOMMENDATIONS:** The Evaluation Team recommends that ADDR not set up a formal TAG. Rather, ADDR should convene small meetings on specific topics as needed and invite appropriate experts to participate. This strategy might be the most useful for the ADDR Project at this stage in its evolution. However, if ADDR and A.I.D. see the need for a formal TAG under the new CA, ADDR should set up a small group with considerable

flexibility in terms of its composition, frequency of meetings, and specific topics for discussion.

#### **E. Financial Plans and Expenditures**

The initial five-year budget for the ADDR Project was \$9,998,630. In September 1990 when the project was extended for two years to September 1992, the budget was increased to \$10,998,630. In September 1992 when the project was extended for one additional year to September 1993 (to allow time to complete ongoing project activities), the budget was capped at the existing level of obligation of \$10,415,384.

Expenditures for the CA totalled \$9,748,698 leaving a pipeline of \$666,686 as of October 1, 1992. Of this remaining sum, \$245,000 has been transferred to the new CA leaving \$421,687 to complete ADDR research in Pakistan and cholera activities in the LAC region. It was decided to transfer \$245,000 in core funds from the original CA to the new agreement to simplify book keeping.

The vast majority or 83 percent of project funds were provided by A.I.D.'s Office of Health. The project also received \$1,755,000 in "add-on" funds from several sources. These included \$500,000 from USAID/Bangladesh in 1987 to fund activities at the ICDDR,B and the Urban Volunteer Project; \$1,115,518 from USAID/Pakistan in 1991 for a major program of research and technical assistance; and \$139,354 from the LAC Bureau also in 1991 for cholera control activities.

As was noted in the 1990 evaluation report and as would be expected with this type of project, expenditures in ADDR's early years were considerably below the planned levels. Expenditures rose steadily from FY 1986 to 1989. Overall expenditures slowed in FY 1990 because costs for subcontracts and research grants declined. In 1990, the project was extended for two more years (as had been recommended by the 1990 evaluation report). At that time, the budget was increased although it was assumed that the project would start winding down. By early 1991, however, it seemed likely that A.I.D. would support a follow-on project. With this expectation, expenditures increased in FY 1991 and 1992 as HIID began to build up staff and as additional research studies were supported. See Tables 7 and 8 for the planned budget and actual expenditures over the life of the CA and for the new CA.

Table 7

**Budget and Expenditures  
for the ADDR Project, FY 1986-1992**

Budget Item	Fiscal Year 1986		Fiscal Year 1987		Fiscal Year 1988		Fiscal Year 1989		Fiscal Year 1990	
	Budget	Expenditures	Budget	xpenditures	Budget	Expenditures	Budget	Expenditures	Budget <sup>1</sup>	Expenditures
Salaries	139,080	139,080	179,903	179,246	192,496	174,116	205,971	186,142	273,763	199,638
Consultants	11,179	11,179	77,650	38,475	214,000	76,773	298,500	77,207	93,000	105,530
Fringe Benefits	27,837	27,837	37,780	38,630	40,424	37,346	43,254	36,691	54,752	43,893
Travel	19,693	19,693	75,000	47,893	127,250	67,192	198,750	85,459	136,426	69,045
Allowances	9,298	9,298	39,653	23,165	48,690	26,525	71,085	47,825	45,515	30,662
Other Direct Costs	51,663	51,663	53,140	45,688	58,500	46,304	63,500	56,679	71,500	47,064
Overhead	62,766	62,766	105,308	79,981	154,988	88,575	201,494	121,905	140,691	110,731
Subcontracts <sup>2</sup>	273,341	19,311	389,638	601,147	400,000	998,451	450,000	1,255,650	1,090,000	102,225
Research Grants <sup>3</sup>	15,249		1,200,000		1,600,000		1,400,000			637,864
<b>TOTALS</b>	<b>610,106</b>	<b>340,827</b>	<b>2,158,072</b>	<b>1,054,225</b>	<b>2,836,348</b>	<b>1,515,282</b>	<b>2,932,554</b>	<b>1,867,558</b>	<b>1,905,647</b>	<b>1,346,652</b>

<sup>1</sup> Budget from September 1990, Amendment #7.

<sup>2</sup> For FY 86-89, subcontract item includes research grants for expenditure columns.  
For FY 90-92, subcontract item includes research grants for budget columns.

<sup>3</sup> Includes conferences, workshops, and institutional support grants.

**Table 7**  
**(continued)**

**Budget and Expenditures**  
**for the ADDR Project, FY 1986-1992**

Budget Item	Fiscal Year 1991		Fiscal Year 1992		Cumulative/All Years	
	Budget <sup>1</sup>	Expenditures	Budget <sup>1</sup>	Expenditures	Budget	Expenditures
Salaries	347,024	310,101	371,316	356,707	1,670,687	1,545,030
Consultants	154,500	106,400	109,006	7,357	560,140	422,921
Fringe Benefits	71,140	67,995	76,120	71,449	342,516	323,841
Travel	142,496	125,906	124,687	95,079	623,846	510,266
Allowances	54,625	46,004	46,434	55,952	253,387	239,430
Other Direct Costs	75,075	125,419	78,281	68,615	425,190	441,432
Overhead	176,318	171,746	168,070	203,531	838,306	839,235
Subcontracts <sup>2</sup>	1,760,000	236,833	560,000	211,600	6,284,559	1,426,042
Research Grants <sup>3</sup>		869,096		494,366		4,000,500
<b>TOTALS</b>	<b>2,781,178</b>	<b>2,059,500</b>	<b>1,533,914</b>	<b>1,564,656</b>	<b>10,998,631<sup>4</sup></b>	<b>9,748,697</b>

<sup>1</sup> Budget from September 1990, Amendment #7.

<sup>2</sup> For FY 86-89, subcontract item includes research grants for expenditure columns.  
For FY 90-92, subcontract item includes research grants for budget columns.

<sup>3</sup> Includes conferences, workshops, and institutional support grants.

<sup>4</sup> The total budget was limited to \$10,415,384 in Amendment #10 in September 1992.

**Table 8**  
**Budget and Expenditures for**  
**New Cooperative Agreement, FY 1992-1996**

Budget Item	Budget <sup>1</sup> 6/92 - 5/96	Expenditures 6/92 - 12/96	Remaining Balance
Salaries	1,604,053	261,200	1,342,853
Consultants	425,363	68,184	357,179
Fringe Benefits	153,495	80,703	72,792
Travel	655,340	171,393	483,947
Allowances	116,384		116,384
Other Direct Costs	157,776	93,745	64,031
Overhead	836,840	177,855	658,985
Subcontracts	910,776	15,545	895,231
Research Grants	1,861,782	108,139	1,753,643
<b>TOTALS</b>	<b>6,721,809</b>	<b>976,764</b>	<b>5,745,045</b>

<sup>1</sup> Revised budget from September 1992, Amendment #2.

The relative distribution across line items of the planned budget and the actual expenditures is compared in Table 9. Actual expenditures has two columns: the first shows expenditures for subcontracts (principally with JHU and Tufts) as a separate line item; the second distributes subcontract expenditures across the other line items and thus is a more realistic characterization of how monies were spent. The major differences between what was planned and what occurred are found in the expenditures for research grants and subcontracts (43 percent was spent compared to 57 percent planned) and in salaries (21 percent was spent and 15 percent planned). Costs related to salaries such as fringe benefits and overhead are marginally higher than planned levels. Assuming that most of the increase in staff costs represents technical assistance to researchers, in-country workshops and conferences, the differences reflect the intensive effort of ADDR staff in supporting the many research studies funded by the project. The budget for the new CA reflects the increased staff costs for HIID and diminished use of consultants. Subcontract levels are about the same as the previous agreement for expenditures, although the level of effort anticipated by the subcontractors is expected to be lower, so there appears to be some discrepancy. The proportion devoted to research grants is substantially lower in the new CA because the Project will devote greater attention to synthesizing the results of past research, to documenting the Project's methodology and impact, to disseminating results, and less attention to developing new research initiatives.

**Table 9**  
**Distribution of Funds By Line Item**  
**for ADDR's Planned Budgets and Actual Expenditures**  
**(percent)**

<u>Line Item</u>	<u>Planned Budget</u>	<u>Expenditures</u>	<u>New CA Budget</u>
Salaries *	15	16 / 21	24
Consultants	5	4 / 5	2
Fringe Benefits	3	3 / 5	6
Travel	6	5 / 7	10
Allowances	2	2 / 3	2
Other Direct Costs	4	5 / 6	2
Overhead	8	9 / 10	12
Subcontracts &		15	14
Research Grants	57	41/ 43	28*
<b>TOTAL</b>	<b>100</b>	<b>100/100</b>	<b>100</b>

\* This distribution is based on HIID's financial reports that give current and cumulative expenditures and distribute subcontract expenditures among the appropriate line items.

As was done in the 1990 evaluation report, HIID provided this Evaluation Team with a breakdown of expenditures by administrative and program costs through December 1992 as shown in Appendix 16. These costs are shown for calendar years and not fiscal years as given in Table 7 so there are some discrepancies in figures shown. A similar picture is shown over

the life of the project in that administrative costs are about 17 percent and program costs are about 83 percent. Program costs include both technical costs, i.e., for technical assistance and the costs of subcontracts, research grants, and non-grant assistance (conferences, workshops, and institutional support grants.) Technical assistance provided by the consortium of HIID, JHU and Tufts staff and consultants is about 30 percent of all expenditures and the majority of funds, 52 percent support research grants and subcontracts. HIID continues the practice of showing overhead related to technical costs in the technical costs category rather than the administrative category as is more common. If these overhead costs are moved into the administrative category, the proportion of expenditures for administration increases to about 24 percent in 1990-1992. As was stated in the 1990 evaluation report, the rule of thumb for such projects is about 25 percent. ADDR's expenditures for administration are in keeping with that level.

The Cooperative Agreement for the follow-on project was signed in July 1992 for \$5.2 million for a four-year period. In September 1992, the budget was amended to provide authority for another \$1.5 million in "add-on" funds (previously called "buy-in" funds from USAID missions and regional bureaus) for a total budget of \$6.7 million. If the follow-on project were to be fully funded, the annual level of spending would be almost \$1.7 million compared to the average annual level of spending of \$1.4 million under the original ADDR Project.

A.I.D. obligations to the new CA are \$29,990,000 (including supplemental funding of \$250,000 for ARI and \$150,000 for Vitamin A)<sup>7</sup>. This relatively high level of obligation reflects the need to provide more funds early in the follow-on to support new grants and also includes \$400,000 in supplemental funding for earmarked activities (i.e., ARI and Vitamin A). At some point in the future, the budget for the CA will probably need to be increased to allow room for these additional funds so that the needed authority for core support will not be too low.

The budget for the new CA is shown in Table 8 as a four-year total. ADDR should update its original budget tables that estimate project expenditures for each of the four years. These annual budget tables should be prepared for the core agreement (\$5.2 million). This will allow for easier tracking of expenditures from year to year. A single summary table for the "add-on" authority is probably sufficient given the uncertainty in the level of obligations.

The start up of any project typically has an unusual spending pattern, and this project appears to be no exception. For example, 53 percent of the Consultant line item, 59 percent of Other Direct Costs, and about 22 percent of Overhead have already been spent. In contrast, only 1.7 percent for Subcontracts and 5.8 percent for Research Grants have been spent. If spending were to occur at a constant rate over the life of the project, expenditures would be about 12.5 percent of the total budget after the first six months. The reasons for the higher levels of expenditures on some line items are due to the delay in funding the new agreement (HIID had anticipated that the new CA would be funded in September 1991, but it was not awarded until June 1992) and the conduct of several proposal development workshops in the first year of the follow-on project.

**CONCLUSIONS:** After the first six months of project activity under the follow-on, it appears that adjustments will be needed among the line items. ADDR has a good level of funding obligation after less than a year of the new CA; however, some of these funds are designated

---

<sup>7</sup> *The funding documents from A.I.D. do not indicate that these monies are for ARI and Vitamin A research. Therefore ADDR may be unaware that these funds should be spent only on special topics.*

for special areas such as ARI and Vitamin A (although A.I.D. funding documents do not make this clear) and should not substitute for core funding requirements.

**RECOMMENDATIONS:** The Evaluation Team recommends that HIID prepare revised budgets for the follow-on project that show annual budget levels for the core agreement and give separate estimates for the additional authority for add-ons. A.I.D. and ADDR should review these budgets in light of the planned activities to determine if overall funding levels and the distribution of funds among line items are adequate.

#### **IV. Summary of Conclusions and Recommendations**

The Evaluation Team believes that A.I.D. is to be congratulated for conceiving and supporting the ADDR Project. It is an excellent example of an innovative and true development project. No multi-lateral agency could have invested as much in applied diarrheal disease research as A.I.D. has done. ADDR's successful approach to capacity building has benefitted several hundred investigators from developing countries and the results are being used in a number of places to improve diarrheal disease control programs.

The site visits to Guatemala, Mexico, Pakistan, and Thailand conducted during the course of the evaluation were an invaluable source of information about the Project and confirmed the uniqueness and strengths of ADDR. For example, in Mexico, the Project heightened the importance of diarrheal disease research so that it has become a priority area along with EPI for the government. Further, the research contributed directly to strengthening the scientific basis of national policy for the prevention and control of diarrheal disease. Similarly in Pakistan, the ADDR Project has achieved impressive improvements in the health research environment and some of the findings have already been applied to programs and policy.

While it is not possible to measure the results of ADDR in quantitative cost-benefit terms, it is clear that the Project is having a practical effect on the treatment of diarrheas and the training of medical students and other health workers and that this effect can only increase with time. The resulting drop in the duration of hospitalization and in mortality from diarrheal disease is of direct economic as well as human benefit. So is the progress in preventing diarrhea through the demonstration of successful interventions to improve personal hygiene at the household level (as in Thailand). While the improved nutrition and better overall resistance to infection resulting from reduced diarrheal disease is harder to determine, it is another substantial benefit.

As the ADDR Project sets priorities for the follow-on, the Evaluation Team recommends that:

1. Care be used not to fund too many studies, and that a date be set after which no additional grants will be awarded (unless A.I.D. plans a second follow-on project);
2. More emphasis be given to funding research on prevention, and where feasible, intervention studies;
3. The number of emphasis countries not be expanded and that those that are included have an on-going program for the prevention and control of diarrheal disease; and

4. More attention be given not only to documenting the ADDR approach and research results, but also to comparative analysis by ADDR staff of studies on similar topics (e.g., cereal-based oral rehydration) in different settings to come up with findings of global significance, if possible.

Numerous other recommendations follow in these final pages of the report that provide additional guidance to ADDR and A.I.D. in setting the future agenda for the Project's succeeding years.

## **A. Research Grant Program**

### **1. ADDR Approach**

**CONCLUSION:** The ADDR methodology has emphasized the self-reliance of the investigators and has been shown to be effective in capacity building in diarrheal disease research. At the same time, ADDR has permitted flexibility in adapting its approach as evidenced by the multi-country study on persistent diarrhea and the new directions outlined in the follow-on project.

**RECOMMENDATION:** The Evaluation Team strongly recommends that the methodology used by ADDR continue to give prominence to the self-reliance of the investigators while retaining flexibility to support some directed research called for in specific situations in the various emphasis countries.

### **2. Quality and Significance of ADDR Research**

**CONCLUSIONS:** ADDR has been outstandingly successful in developing a cohort of good researchers, and the proposal development workshop is an excellent training model. By funding relatively small, practical studies, ADDR has also contributed to greater understanding of diarrheal disease and to the generation of studies that are useful and have local health policy significance. The relationships of the ADDR Project staff and consultants with the local investigators and their institutions have been sound and effective. While difficult to measure quantitatively, there are substantial economic and human benefits to the countries where ADDR has been active due to more effective treatment and prevention of diarrhea.

**RECOMMENDATIONS:** The Project can continue to play a very useful role in introducing investigators to protocol-based research, and assisting investigators to move on to the next level of competence and independence in conducting research. Every effort should be made to insist on the highest quality of research possible without excluding more junior investigators. In addition, there should be more opportunities for the best investigators to do more sophisticated research; the Project should be flexible in providing support for somewhat larger studies for second stage research grants. Support should continue to be provided not only for grants, but also for additional training and participation in international workshops and meetings. The Evaluation Team urges that the excellent relationships of the Project staff and consultants with the local investigators continue during the follow-on CA. The Project should also develop a workshop methodology for data analysis and writing of reports and scientific papers that is as well conceived and conducted as is the proposal development workshop.

### 3. Focus of ADDR Research Grants

**CONCLUSIONS:** The ADDR Project concentrated primarily on four areas of diarrheal disease (food and fluids therapy, prevention, invasive and persistent diarrhea, and provider and caregiver behavior) during the original CA. Least emphasis has been given to studies on the prevention of diarrhea. Since 1990, research and technical assistance have been extended to two other subject areas: ARI (this was a new topic for ADDR), and cholera (more emphasis was given because of the cholera epidemic in Latin America). The new CA expands the topical focus of ADDR further to include nutrition, micronutrients, and malaria. The Evaluation Team feels strongly that the increase in the number of subject areas, while responding to real needs in the field, will be detrimental to the quality of the assistance provided by ADDR and in turn to the quality and significance of the resulting research unless additional resources are provided.

**RECOMMENDATIONS:** If the ADDR Project is to support research in an expanded number of areas, then more resources will be needed to enable the Project to expand its technical and management capacity so that critical work on diarrheal disease research can be continued and is not de-emphasized. If this is not possible, the Evaluation Team recommends that the Project limit the research in other areas to those studies that are linked to problems of diarrheal disease. Further, the Team recommends that there be more focus on prevention and where feasible intervention studies.

### 4. Selection of Institutions and Investigators

**CONCLUSIONS:** Criteria for selecting countries, institutions, and scientists for ADDR projects are sound, have been well tested over the life of the Project, and are flexible enough to be adapted to local circumstances. The Project's experience indicates that concentrating on promising investigators, particularly those with post-graduate degrees, in one or a few good institutions leads to better research than awarding grants to investigators dispersed in a number of institutions in a particular country. The Evaluation Team understands that ADDR's approach in Pakistan and Nigeria represents necessary exceptions to this methodology. In Pakistan, the USAID mission is very positive about this broader involvement.

**RECOMMENDATIONS:** The Evaluation Team recommends one new criterion for countries -- that of selecting countries with an established program of diarrheal disease prevention and control. Where the study requires it, we also recommend selecting those institutions that already have the needed equipment, instruments and materials to implement research. Further, the Team urges caution in supporting investigators who are dispersed across a range of institutions, some without a research tradition.

### 5. Transfer of Skills

**CONCLUSION:** There is clear evidence that the ADDR Project produces an active transfer of research skills in every phase of its methodology; however, there needs to be much more documentation of the methodology involved and experience gained.

**RECOMMENDATIONS:** The Evaluation Team recommends that ADDR document its methodology so that others can apply it (as in Pakistan where investigators are already eager

to do so.) Equally important, ADDR needs to thoroughly review its methodology and look for ways to improve it. ADDR then should determine if its current approach is cost-effective or if there are revisions that might make it even more effective and also efficient.

#### 6. Individual Career Advancement

**CONCLUSION:** While ADDR does not yet have a formal system for tracking career advancement, the Project has begun collecting information from investigators on some of the effects of the Project through the self-evaluation questionnaires. The responses from these questionnaires and the field visits provide clear signs that the Project has already had a significant impact on the scientific development and standing of the investigators.

**RECOMMENDATION:** The Evaluation Team recommends that a system to monitor progress of the investigators be designed and implemented, including improvement in research capacity, change in status or positions in education and management, publications, and attracting more young scientists to research in order to document the effectiveness of the Project.

#### 7. Dissemination

**CONCLUSIONS:** ADDR has been quite active in promoting the dissemination of research funded by the Project. These efforts have been most successful in reaching other researchers. The project has not yet responded adequately to the recommendations in the previous evaluation about the need to work more closely and systematically with policy makers and program managers to increase the likelihood that the results of the studies will be applied.

**RECOMMENDATIONS:** ADDR should devote greater effort to its dissemination activities as is indicated in the new CA. Workshops should be sponsored that cover both data analysis and also dissemination (report writing and presentations). Further, dissemination should be stressed at all project phases starting with the initial proposal development and must go beyond producing publications to getting the results to policy makers.

#### 8. Linkages Between Research and Programs

**CONCLUSIONS:** There is evidence in some emphasis countries (e.g., Mexico, Pakistan, and Thailand) of linkages between the ADDR-supported research and program concerns, particularly of A.I.D. and ENHR. Despite the strong urging in the previous evaluation, there is little evidence of the Project's systematic attempts to encourage investigators to work together with policy makers and program managers in translating research results into policy and program changes.

**RECOMMENDATIONS:** In all new studies sponsored by the Project, the linkages between the research and programs should be developed from the inception of each investigation to increase the likelihood that the studies will have an impact on policy and program formulation and on the implementation in diarrheal disease and other priority health issues. The Evaluation Team endorses ADDR plans for evaluating the impact of its efforts (Trostle, February 1993) and also recommends that the planned conference on research and policy be held after 1993 to ensure adequate time to prepare case studies.

## 9. Evidence of Capacity Building

**CONCLUSIONS:** ADDR grants have significantly contributed to research capacity building through diverse mechanisms in a group of developing countries, thus benefiting investigators and their institutions, and, to some extent, decision-makers and program managers. Although it was recommended in the 1990 evaluation, ADDR has not sufficiently documented its approach to capacity building. There is an additional need to support training for the most promising investigators beyond the training provided through the ADDR workshops.

**RECOMMENDATIONS:** The Evaluation Team recommends that the ADDR Project explore the possibility of introducing the transdisciplinary approach to the methodology for designing studies in diarrheal disease. It is also recommended that additional funding be provided to ADDR to support a limited amount of additional training in the biomedical, epidemiological and social sciences. If additional resources are not available, ADDR should work with other donors to support further training. ADDR should systematically collect information on the broader spectrum of results of the Project that cover personnel development, institutional development and policy and program changes. Further, A.I.D. should plan an evaluation of the follow-on CA that looks at the broader outcomes of the Project.

## 10. Evidence of Institution Building

**CONCLUSIONS:** ADDR has contributed significantly to institution strengthening mainly on the basis of increasing the research capacity of the investigators so that they become self-reliant. In selected cases, the Project has provided laboratory and computer equipment, including software.

**RECOMMENDATIONS:** The Evaluation Team recommends that the approach to institution strengthening through capacity building of investigators be continued during the follow-on activities. The Team also endorses the role of ADDR's resident advisors, particularly their ability to provide needed technical assistance while not interfering with the initiative and self-reliance of the local investigators.

## 11. Sustainability of Capacity Building

**CONCLUSION:** As the ADDR Project promotes the self-reliance of investigators, improves their capacities for conducting research, and emphasizes the policy implications of the research, the Project's approach should lead to sustainability. There is good evidence for sustainability in Mexico, Pakistan, and Thailand.

**RECOMMENDATION:** The Project should continue stimulating investigators to design sound studies and guide them to obtain funds from other sources. Since other funding is limited to local sources and international agencies such as WHO and UNICEF which are unlikely to provide significant levels of assistance, it is recommended that A.I.D. stay the course and continue to provide assistance for diarrheal research given its major impact in developing countries.

## **12. Indicators of Success of ADDR's Research Grant Program**

**CONCLUSION:** The Evaluation Team concludes that there are many indicators of success of ADDR's research grant program if the major objective is the formation of self-reliant, independent investigators. These include introducing a large number of investigators to research at the proposal development workshops, the large number of funded studies, contributions to the career development of the ADDR-supported researchers, the number of published articles especially those in peer-reviewed journals, and the number of investigators that went on to design additional protocols and to obtain additional research support after the ADDR grant.

**RECOMMENDATION:** The Evaluation Team recommends that ADDR do more to track the Project's success and suggests using some of the indicators mentioned in the report as a starting point to document the effectiveness of its approach.

### **B. Coordination and Collaboration**

**CONCLUSIONS:** Significant progress has been made in coordination and collaboration with a number of international and national agencies by the ADDR Project in the last three years. Various innovative and effective methods of coordination have been implemented. In addition, a process has been underway to improve coordination and communications of ADDR researchers with national and international institutions.

**RECOMMENDATIONS:** The Team recommends that the process of coordination and collaboration continue with ADDR, WHO, ICDDR,B and A.I.D. through the DRDRC meetings given its importance for the CDD Programs and the agencies involved. Joining efforts and resources increases the outcomes and reduces costs for all parties. The Evaluation Team strongly supports the continuation of the special collaborative endeavors between ADDR and ICDDR,B. Through other avenues (e.g., perhaps as a side meeting at the time of the annual WHO donors meeting), the Project should also try to coordinate its activities with other multilateral (such as UNICEF and the World Bank) and bilateral agencies that have programs in developing countries that provide technical and financial assistance for the prevention and control of diarrheal disease. The relationships of investigators with national and international organizations at the country level should be promoted systematically for all ADDR-supported studies.

### **C. Areas for Improvement and New Areas of Coordination and Collaboration**

#### **1. Diarrheal and Respiratory Disease Research and Coordination Committee**

A recurrent subject at the DRDRC meetings is reviewing research priorities. There are already some positive results. One of them is the decision by the ADDR Project to extend the number of emphasis countries in Africa, not only because of urgent need, but also because other agencies in the field of diarrheal disease research did not include this region in their activities.

At one of the semi-annual DRDRC meetings, coordination workshops on key subjects were recommended, e.g., INCLEN and ADDR on prescribing practices. It was also suggested that the Project bring together investigators of similar studies it funds to analyze how their efforts can most usefully be focussed. These recommendations should be followed.

DRDRC meetings should also focus on linking research outcomes to devising policies and effecting them through relevant programs. The work scope for ADDR's follow-on project presents an interesting agenda including reinforcement of current activities, case studies, and an International Conference on Research and Policy. The Evaluation Team agrees with these proposed actions.

Given the need for additional resources to train ADDR-funded investigators (as discussed in the section on transfer of skills), information about training needs, opportunities and funding should be on the agenda of DRDRC meetings. WHO, UNICEF, A.I.D., foundations, and other sources could provide financing for this type of training for the best investigators. ADDR might also design a research training program and seek other funding.

## 2. ADDR and other international agencies and projects

The effective collaboration established between ADDR and UNICEF in Nigeria, Pakistan, and Thailand, and probably in Ecuador and Ghana in the near future, should be extended to other countries. Additional opportunities should be sought for more co-funding of projects, drawing from different institutional strengths, e.g., ADDR funding research costs and UNICEF funding costs of dissemination and communication activities. Collaboration with A.I.D.-financed projects, such as WASH and HealthCom during the Latin America cholera program, involved staff and consultants from these projects conducting reviews of proposals submitted to ADDR. Such activities are in their early stages and can be improved.

A stronger association should be established with INCLEN given its emphasis on clinical epidemiology which is so essential for the prevention and control of diarrheal disease of different etiologies. One good past example is the jointly-sponsored pharmacoepidemiology workshop preceding INCLEN XI meeting in Cairo.

## 3. Coordination

Better coordination among the agencies in terms of training materials and bibliographies for the different diarrheal disease subjects would benefit all groups. Each participating agency has its own training manuals, as expected. WHO has one being used by the CDD Division, with appropriate materials, in the proposal development workshops it sponsors. For the same objective, the ADDR Project has its own manual and materials. INCLEN has also prepared training manuals for its projects. Similarly, different groups develop their own bibliographies using different means and channels. For example, the International Network for the Rational Use of Drugs (INRUD) has a bibliography on prescribing practices, a subject of great importance for diarrheal disease case management.

There is an apparent need for coordinating these disparate sources of training materials and bibliographies and pulling together what is already available. Examples from the population

field are pertinent: the POPLINE bibliographic service (available now in CD ROM) and Population Reports, comprehensive reviews of specific topics in population and family planning based on up-to-date publications.

#### 4. Dissemination

Dissemination of research results through national and international publications could be strengthened. Reference has already been made to information on the Project in Dialogue on Diarrhea, Bridge, HIID Research Review, and the INCLIN Newsletter. ADDR apparently plans more of this type of dissemination. Another approach, already tried in Indonesia, is to compile a list of important local journals and newsletters and distribute it to the investigators so that they can tailor their products to the requirements of these potential outlets. Similar lists have already been compiled and circulated for international publications. These approaches are useful because they reflect the need for using all channels of dissemination of the studies in order to raise awareness and foster application of their results.

### D. Organization and Management

#### 1. Organizational and Staff Structures

CONCLUSIONS: The consortium has contributed to the strong technical capacity of ADDR. The relative role of HIID staff working on the ADDR Project has grown considerably since the Project's early days, and HIID is expected to play an ever larger role in the follow-on project. The subcontractors have made substantial contributions despite relatively small levels of effort.

While the composition of the ADDR staff was sufficient to support the initial development of a research program in diarrheal disease, there is considerable doubt whether the current staffing will be adequate to handle new areas such as ARI and also carry out the numerous other activities in the work scope and those emanating from recommendations in this evaluation report. Further, given the Project's increased complexity and size, HIID may need greater effort devoted to technical management that is commensurate with this expanded role.

RECOMMENDATIONS: The Evaluation Team recommends that A.I.D. assess the implications of ADDR's evolution in terms of the present staffing levels and consider increasing the capacity to manage a technically complex and large program of research. A.I.D. and ADDR staff should conduct a hard-hitting assessment of the levels of effort required to accomplish all project activities over the coming years. It is likely that either the funding for additional staff will need to be increased or that the scale of the planned activities will need to be amended and perhaps reduced.

The Evaluation Team also recommends that ADDR hold a meeting as soon as possible with its full staff (resident advisors as well) and subcontractors to review the Project's priorities and assess what is realistic for the implementation of the work scope over the next three and one-half years of the new CA.

## 2. Internal Monitoring of Grants and Project Reporting

**CONCLUSION:** In general, the Project's procedures for internal monitoring and reporting are adequate. As the Project has grown in terms of the number of studies funded, it has become necessary to set up a computerized system for monitoring all grant actions.

**RECOMMENDATIONS:** ADDR should consider making a number of revisions in its annual report including adding several summary tables on the Project's activity and more specific information on the policy and program implications of the ADDR-supported studies. ADDR should also query the USAID missions about once a year to determine changes in the staff who might be interested in receiving key project reports.

## 3. Relationship between ADDR and A.I.D.

**CONCLUSIONS:** ADDR and A.I.D./Washington have an excellent working relationship particularly under the tenure of the current A.I.D. CTO. In terms of the overseas missions, ADDR has placed no burden on staff time. At the same time, with the exception of Pakistan and probably Nigeria, USAID staff is generally unaware of the project's work after an initial involvement reviewing and approving research proposals.

**RECOMMENDATIONS:** The Evaluation Team recommends that ADDR make an annual presentation to A.I.D./Washington staff on the progress of the Project, highlighting recent findings and the impact of CDD programs wherever possible. ADDR staff and consultants should, where it is desired, regularly debrief USAID mission staff before leaving the country in order to discuss recent progress on the various studies. They should also leave behind short summaries on each study in the country that they have visited.

## 4. Technical Advisory Group

**CONCLUSIONS:** While the TAG played a useful role in the Project's first five years, the dual roles of advisor and reviewer of proposals became cumbersome and unproductive. The TAG has not been active since July 1990. A new TAG is in the process of being appointed.

**RECOMMENDATIONS:** The Evaluation Team recommends that ADDR not set up a formal TAG. Rather, ADDR should convene small meetings on specific topics as needed and inviting appropriate experts to participate. This strategy might be the most useful for the ADDR Project at this stage in its evolution. However, if ADDR and A.I.D. see the need for a formal TAG under the new CA, ADDR should set up a small group with considerable flexibility in terms of its composition, the frequency of meetings, and the specific topics for discussion.

## E. Financial Plans and Expenditures

**CONCLUSIONS:** After the first six months of project activity under the follow-on, it appears that adjustments will be needed among the line items. ADDR has a good level of funding obligation after less than a year of the new CA; however, some of these funds are apparently designated for special areas such as ARI and Vitamin A (although the A.I.D. funding documents do not make this clear) and should not substitute for core funding requirements.

**RECOMMENDATIONS:** The Evaluation Team recommends that HIID prepare revised budgets for the follow-on project that show annual budget levels for the core agreement and give separate estimates for the additional authority for add-ons. A.I.D. and ADDR should review these budgets in light of the planned activities to determine if overall funding levels and the distribution of funds among line items are adequate.

## Appendix 1

## **Appendix 1**

### **APPLIED DIARRHEAL DISEASE RESEARCH PROJECT (936-5952)**

#### **TERMS OF REFERENCE AND SCOPE OF WORK FOR END-OF-PROJECT REVIEW**

##### **I. BACKGROUND**

The Cooperative Agreement No. DPE-5952-A-00-5073-00 between the United States Agency for International Development (A.I.D.) and the Harvard Institute of International Development (HIID, the Recipient) has been in effect for the period September 30, 1985 to September 1992 with the New England Medical Center (Tufts University) and the Johns Hopkins School of Hygiene and Public Health as sub-contractors. The total estimated cost for the Agreement is \$9,998,630 for a six-year period (5 years with a one year no-cost extension). The purpose of this Agreement was to provide support for Applied Diarrheal Disease Research as set forth in the Recipient's proposal. As required by Article VI of the Cooperative Agreement, a midpoint evaluation of the project was conducted in March 1988 and an end-of-grant evaluation was conducted in March 1990. The March 1990 evaluation recommended an extension of the existing CA and a final review of the project at the end of the extension. The Cooperative Agreement has been extended to September 1992 to fund activities in cholera provided as an add-on.

This project was expected to assist A.I.D. and host countries to establish or improve diarrheal research activities through (1) short-term technical support activities, (2) management of a research grant program, (3) institutional and individual resources development in less developed countries and (4) improved coordination.

At the end of the project, it was expected that the implemented research would result in (1) research results that contribute to the improvement of diarrheal disease control, (2) completion of research projects in the priority areas, (3) improvement of coordination between A.I.D. and other donors on diarrheal disease research activities, and (4) establishment of institutional capacity to conduct research in approximately six emphasis countries.

A follow-on cooperative agreement was awarded on June 4, 1992. Activities to be carried out are set forth in the Recipient's proposal. The agreement is one of three funded under the umbrella project entitled "Diarrheal and Respiratory Disease Research and Coordination."

## II. REVIEW OBJECTIVES

This review will be used primarily by R&D/H to assess implementation and accomplishments of ADDR, identify constraints, examine ADDR's role in coordination and provide guidance for follow-on activities. The specific objectives are as follows:

- A. To summarize from previous reviews the appropriateness and adequacy of the original project goal, design and budget, and subsequent revisions.
- B. To assess the efficiency and effectiveness of overall project implementation, including progress towards End-of-Project Status and towards implementation of recommendations made in previous evaluations, in terms of:
  - 1. ADDR's organization and management.
  - 2. ADDR's project goals.
    - a. ADDR as a research capacity-building project.
    - b. ADDR as a scientific endeavor and its research development process.
    - c. ADDR's efforts to coordinate with WHO and ICDDR,B specifically, as well as other relevant institutions such as UNICEF, Rockefeller Foundation and other A.I.D.-Funded projects.
- C. To articulate lessons learned, impact on diarrheal disease control and constraints/problems encountered under the previous project and how these may strengthen and/or contribute to success in the follow-on CA. To provide advice for the follow-on project as it consolidates and synthesizes its experiences especially in the area of capacity building and facilitating the translation of research results into policy and implementation.

The reviewers may wish to consider this review in three stages in the project (without repeating the previous evaluation): (a) up to the mid-project evaluation, (b) from the mid-project evaluation until the end-of-project evaluation, and (c) since the end-of-project evaluation.

### III. DETAILED SCOPE OF WORK

#### A. Document Review

Review pertinent project documents and correspondence including but not limited to:

- Project Paper dated 4/22/85
- Request for Application (RFA) No. A.I.D./STPE-5007
- Cooperative Agreement No. DPE-5952-A-00-5073-00 dated 9/30/85
- Sub-agreements between HIID, Tufts and JHU
- Annual Project Work Plans prepared by HIID for FY86, FY87, FY88, FY89, FY90, FY91 and FY92
- Progress Reports and Financial Reports
- The ADDR Mid-Project Report: September 30, 1985 - March 30, 1988 by HIID
- Mid-term Evaluation: March 1988
- ADDR Internal Evaluation Reports
- The ADDR End-Of-Grant Evaluation: March 1990
- The Diarrheal Disease Portfolio Review dated December 1989
- ADDR TAG Members
- ADDR Research Grants Portfolio
- ADDR Description of Grants and Proposals
- ADDR Grantees -- Self-Evaluation Form
- ADDR Tag Members Evaluation Form
- New Proposals
- Coordination Meeting Notes
- Copies of Publications

- Internal Assessments
- Trip Reports

B. Project Review

1. Summarize from previous reviews the appropriateness and adequacy of the original project goal, design and budget, and subsequent revisions.
2. Assess the efficiency and effectiveness of overall project implementation, including progress towards End-of-Project Status and towards implementation of recommendations made in previous evaluations, in terms of:
  - a. Organization and Management
    - i) Project Reporting -- Review contents of reports including Annual Work Plans, Periodic Activity Summary Reports, Technical Reports, Trip Reports, Annual Reports and other reports. Have they been prepared and submitted in a timely fashion? Are they informative and prepared in the agreed on format? Has distribution been appropriate? Are the contents of the reports appropriate planning/management tools for project activities? Describe briefly.
    - ii) Personnel -- Review staffing and consultant/short term TA patterns and assess in terms of number and level of expertise required to carry out a follow-on project based on lessons learned from the current effort. Is the core staff appropriate for the project? Assess the role of project manager and technical core staff. Describe how the activities are planned and implemented by core staff.
    - iii) HIID/Tufts/JHU Sub-agreements -- Examine the areas and magnitude of Tufts and JHU involvement to date. Assess the effectiveness of this consortium arrangement to accomplish project purpose. Discuss the decision making process and coordination of consortium activities. Assess Harvard's financial and technical management and/or oversight of the sub-contracting agreements. Assess working relationship of sub-contractors to prime.

- iv) Technical Advisory Group -- Describe and analyze the role of the TAG and its evolution over the life of the CA. Assess the appropriateness of composition and responsibilities.
- v) Tracking of projects to monitor progress (technical and financial) -- How is this done? Is it adequate? Is information provided to the A.I.D. CTO on a timely basis?
- vi) Review -- expenditures to date to assure observance with standard government regulations. Review procedures and processes related to financial management and reporting. Have project vouchers been filed and budgets been updated on a regular basis? Assess the financial plan contained in the Cooperative Agreement and revisions. Assess Harvard's financial tracking mechanism for sub-contracting agreements.
- vii) Review Communication with:
  - 1) A.I.D./W -- At what intervals? Has it been adequate? Assess the role of A.I.D. per "Substantial Involvement" throughout 3 phases of project; has A.I.D. played an appropriate, useful, constructive role? What constraints have been identified?
  - 2) A.I.D. missions -- Has communication been adequate? Has A.I.D. played a constructive role? Have ADDR projects added to the management burden of missions? Has ADDR been responsive to mission requests/priorities?

b. Assessment of Project Implementation and Progress towards Project Goals

In the areas listed below, provide a general assessment (qualitative and quantitative) of project activities. For each area articulate lessons learned and constraints to progress.

- i) Research Capacity Building -- identification and work with appropriate institutions and scientists? coordination and communication of research with other national or international organizations? evidence of institution

building, individual career advancement, or transfer of skills? fostering of linkages between investigations and program concerns (with A.I.D. and essential national (CDD) health research)? How have ADDR grants contributed to research capacity building? What are the indicators of success? How sustainable is the capacity building? How does it contribute to overall economic development?

- ii) Scientific Endeavor -- selection of appropriate themes for inquiry? fostering interdisciplinary science? assuring the scientific quality of the research projects, workshops and commissioned papers funded under the project. Summarize the areas of research and scientific output including significant scientific discoveries/breakthroughs; relationship to or coordination with research/technologies underway or completed elsewhere; total A.I.D. and non-A.I.D. contributions. Measurable indicators of success include: the number of peer reviewed papers published or presented at professional meetings, extent of distribution lists for published reports, etc.
- iii) Research Development Process -- documentation of a successful mechanism to stimulate, support and perpetuate a grant program: solicitation and recruitment of proposals, application and review process, assistance in strengthening proposals, adequacy of technical support and communication with investigators, data analysis, monitoring grant activities, peer review and dissemination of research findings. What are the measurable indicators of success?
- iv) Coordination and Collaboration -- Review HIID's efforts to improve the coordination of diarrheal disease research activities noting: areas of coordination; institutions and organizations involved (A.I.D. missions and bureaus, other donor organizations, WHO, ICDDR,B etc.); methods employed; significant achievements and areas in need of improvement. Describe the relationships with in-country institutions or personnel. Characterize the evolution in the relationships between project implementors and USAIDs, PVOs, host country, leaders, scientists, institutions, communities. What types of interactions have fostered good working relationships? productive relationships? What have been the constraints?

### **C. Conclusions and Recommendations**

1. Draw some broad conclusions on the project's accomplishments and importance given A.I.D.'s mandate.
2. Identify areas that need strengthening during the follow-on project and how this might best be accomplished.
3. Identify priority areas for the follow-on agreement especially in research capacity strengthening (including building a productive network of researchers within countries and between countries) and translating research results into priorities and implementation.

## Appendix 2

## Appendix 2

### REPORT OF FIELD TRIP TO MEXICO January 11-15, 1993

by Dr. Abraham Horwitz

#### PERSONS INTERVIEWED

Dr. Kumate, Mexico's Secretary of Health

Ms. Nancy Sweeney, A.I.D./Mexico

ADDR Investigators:

Dr. Gonzalo Gutiérrez (Projects 009 and 076)

Dr. Homero Martínez (Projects 010, 017, 049 and 108)

Dr. Onofre Muñoz (Project 094)

Dr. Carmen Martínez (Project 094)

Dr. Javier Torres (Project 095)

Dr. Héctor Guiscafré (Projects 009 and 076)

Dr. Irene Maulen Radovan (Project 079)

Dr. José Alberto García Aranda (Projects 078 and 120)

Dr. Juan Garduño Espinosa

#### GENERAL COMMENTS

The ADDR Project did well in selecting Mexico as one of the emphasis countries early in its development. There was a group of well-trained and experienced investigators working in well-established institutions in the health field. In our discussions it was stated with the everyone's concurrence that ADDR contributed directly to strengthening the scientific basis of the national policy for the prevention and control of diarrheal disease. This is all the more significant because the government has decided to give high priority to the control of diarrheal disease, as with the Expanded Programme on Immunization (EPI), a success in Mexico.

According to one of the researchers interviewed, "ADDR has been a catalyst and an agglutinant." It has, therefore, promoted research and facilitated communications among the investigators.

#### SOME CHARACTERISTICS OF THE INVESTIGATORS

All of the investigators requested assistance from ADDR once they knew about the Project from different sources. Some read the brochure distributed by ADDR, others saw

the announcement in the Journal of Pediatrics, and still others were advised by American consultants visiting Mexico. Only for project 120, Dr. García Aranda was asked by ADDR whether he wanted to evaluate the algorithm for the management of persistent diarrhea and malnutrition in infants and children in Mexico.

I do consider all of the researchers to be genuinely interested in health research, including diarrheal disease, having developed a number of studies published in Mexico. However, they all emphatically recognized that the ADDR methodology greatly improved their capacity to better design and implement their studies. This is a clear case of transfer of skills for better research. They feel that they are at present self-sufficient, being, therefore, able to design new studies on diarrheal disease, acute respiratory infection, or other health problems. In fact, some of them have already obtained funding for new projects by the National Council of Science and Technology of Mexico (CONACYT), and WHO.

### SOME FEATURES OF THE STUDIES

All of the studies deal with the treatment of different types of diarrhea. However, none of them focus on the prevention of this condition, and this approach seems to prevail in all the investigations sponsored by the ADDR Project. The team strongly believes that in the follow-on activities this imbalance must be corrected.

Two of the studies in Mexico deal specifically with physicians' prescribing behavior, and two with mothers' beliefs and practices regarding treatment. All of them associate biomedical and social sciences, but do not integrate them in an interdisciplinary model.

Three of the investigators compare a rice powder solution with the glucose-based ORS for rehydrating the patients. The use of rice has also been the basis of studies in a number of emphasis countries. A comparative analysis of all of them would be a valuable exercise and should be performed by the HIID staff.

One of the Mexican studies refers specifically to a treatment algorithm for dysentery. Another deals with the cost-effectiveness of the treatment of cyst passers of Entamoeba histolytica.

Finally, the Hospital Infantil de México was one of six centers for studies to evaluate an algorithm for the management of persistent diarrhea and malnutrition of infants and children. Three different formulas were compared. This was a joint undertaking of WHO and ADDR, each one sponsoring three of the centers.

All studies seem well designed and analyzed mainly due to the capacity of the Mexican researchers and the effective collaboration of the consultants. There was no proposal development workshop in Mexico.

The quality of the studies should be evaluated in terms of their contribution to better knowledge of the epidemiology and case management of diarrheal disease, and the behavior of providers and caretakers of patients with diarrheal disease. It could also be measured in terms of the significance of the outcomes for changing policies and interventions to control and/or prevent diarrheal disease. Several of the investigations have contributed concrete new knowledge in the areas mentioned, but they have not yet induced changes in policy formulation and program implementation. One study, 009/076, focusing on improving treatment prescribed by primary health care physicians, has been extended from IMSS and MoH clinics in a district of Mexico City to the whole state of Tlaxcala. It is expected that the outcomes will become policy for the 45 million people served by IMSS. We were informed that the diet selected in studies 078 and 079 could be lyophilized, and thus distributed throughout the country.

## CONSULTANTS

The response of the Mexican investigators was unanimous: the consultants were excellent. They provided highly scientific and effective assistance. They created a good rapport with their colleagues in a true process of interchanging views about the different phases of the ADDR methodology, which explains to a large extent the good quality of the studies. The Mexican investigators pointed out that no consultant wanted to be a co-author of the publication of the studies. They accepted because of the insistence of their Mexican colleagues. Among those consultants mentioned are Drs. Brown, Sommer, Robertson, Griffith, Keusch, Pelto, Bernard, Trostle, Walsh, Snyder and Fontaine (WHO).

## CAREER ADVANCEMENT

The outstanding case is Dr. Gonzalo Gutiérrez, who has become Coordinator of the Interagency Committee MoH-IMSS for the Prevention and Control of Diarrheal Disease. The importance of this appointment is related to the decision of the President of Mexico to ascribe priority to this public health problem, as with EPI.

Several investigators have seen their standing improved within their institutions. Dr. García Aranda (Project 078) reported that, because of the ADDR grant, his prestige grew at the Hospital Infantil de México, and research has become more respectable. The director of the hospital invested in improving the laboratories for specific tests. Other principal investigators have included the outcomes of their studies in the teaching of undergraduates and graduates in diarrheal disease.

## SOME CRITICISMS

Despite the fact that most comments on the ADDR Project were highly favorable, some criticisms were raised. One referred to the slow process in obtaining the grants and disbursing them. In some cases, the institutions advanced funds so that the investigations

were developed. The total amount of each grant, \$25,000, was considered small. In most cases it was complemented mostly with the resources of the host institutions because of the importance for the country. Most of the publications were made in Mexican journals. The complaint was that when assistance from the HIID staff was requested to publish in peer-reviewed journals, they either got no reply, it came too late, or was not very useful. One investigator felt the need for better networking among the group of Mexican investigators in diarrheal disease. One constraint mentioned by several researchers was the difficulty in collecting the number of cases to match sampling requirements. Apparently, the educational campaign through the media, launched by the government to control the cholera outbreak, also had an impact on the incidence of diarrheal disease.

## **SUSTAINABILITY**

I asked the Minister of Health of Mexico about the continuation of the control of the diarrheal disease program, including research, in the next Administration. He was certain that it was going to be sustained because of the priority given by the current one.

## Appendix 3

### Appendix 3

#### General Conclusions Based on Trip Reports from Field Visits to Thailand, Pakistan and Guatemala

by  
Dr. Nevin S. Scrimshaw

#### THAILAND, November 22-25, 1992

The ADDR-funded studies in Thailand were directed at very simple practical issues and were technically unsophisticated. However, there is no doubt that they have had a very positive effect on the knowledge, understanding and effectiveness of the investigators in terms of understanding the potential of research, the acquisition of practical experience and examples for their teaching, and their ability to give policy advice. It should be recognized that just as the program was gaining momentum, further support was withdrawn due to a change in U.S. policy and the investigators were left to carry on as best they could. Moreover, ADDR was severely restricted in the further consultant and other help that could be given to these deserving projects, for the most part in the hands of inexperienced investigators.

There was a consensus that without ADDR program support, these investigators would still be teaching diarrheal disease control and treatment solely on the basis of hospital and outpatient clinic data. They would not have had any chance for direct community observations or to understand what people believe and practice regarding diarrhea. They would have been understanding "only the tip of the iceberg." These investigators say that they are now teaching medical students and health workers how the people and families perceive illness, how important it is for health providers to spend time understanding the beliefs and practices of the family, how to mix and give ORS correctly, and how to evaluate the effectiveness of their efforts.

While the data generated are of purely local importance and do not add significantly to international understanding of the problem, their local value should not be underestimated. Their most lasting and profound effect, however, will probably come from the first-hand data and examples that can be used in teaching students in medicine and other health sciences and in the social sciences. It will be the investigators' students that most affect policy. The fact that they are planning a conference on the prevention of diarrheal disease in Thailand that will include both the scientists and public health officials concerned is a valuable immediate consequence of the ADDR Project. There are already over 300 health workers trained in the control of diarrheal disease in UNICEF-sponsored workshops for which several of the ADDR investigators have served as teachers and resource persons. One of the investigators has also served as a resource person for 6 short courses per year on oral rehydration established by the Ministry of Health and also teaches the ORT unit in the annual SEAMEO-TROPMED course for participants from all SEAMEO countries.

The approach to a variety of institutions with small grants worked well in Thailand and did much more lasting good than a single large project could have done. The size of the grants were considered sufficient by the investigators, and they did link academic researchers with public health workers at the district and local levels.

The initial ADDR workshop convening potential investigators and experienced resource persons was effective and necessary although there was some feeling that it was too directive and that the investigators did not have enough opportunity to figure out their own objectives. On the other hand, the investigators would have liked more help on experimental design and such issues as sample size, how to develop questionnaires, and data analysis. The suggestion of the Thai investigators that they would like to see standardized comparative research across countries so that the results could be compared would also require greater external direction.

Judging by the relatively low sophistication of most of the projects despite the good quality and motivation of the investigators, this is probably the only way that the ADDR program could have been so successfully implemented in Thailand. The much greater sophistication of the projects reviewed in Guatemala confirms that ADDR would have been responsive to greater local initiative in Thailand if it had been forthcoming. The second workshop on Data Handling and the third one on Report Writing and Manuscript Preparation were certainly necessary and much appreciated.

Another indication of the value of the ADDR program to Thailand is that four groups of the investigators are already receiving much more substantial support for further studies from IDRC, the Rockefeller Foundation, UNICEF, and the Thai Government.

The suggestion of the university administrators that each project should have had a local health official or worker as a co-investigator was accepted as a good idea by the principal investigators with whom it was discussed.

One complaint expressed by the Thai investigators was that some of the research that they would like to have proposed did not fit the specific objectives of the ADDR Project. This is inevitable. The only significant complaint concerned the delay in editing the workshop papers. Dr. Wandee, the project coordinator, stated that they have been waiting six months with no word on the workshop papers and the insistence of HIID to edit every paper submitted for journal publication coming from the project has caused further publication delays.

#### **GUATEMALA, January 4-6, 1993**

The three ADDR-funded studies in Guatemala are relatively sophisticated and capable of generating data publishable in international journals and contributing significantly to knowledge of the management of diarrheal disease. This is due in part to the existence of two institutions with some research depth and experience and the existence of strong local mentors in each. However, the ADDR Project did seek out less experienced investigators who would greatly benefit from the opportunity to take responsibility for this research. Moreover, there is a reasonable certainty that the investigators involved will continue in research and go on to obtain other support.

Of the two ADDR-funded studies at CeSSIAM, one has not yet achieved its original objective of determining the effect of diarrhea on nutritional status but, on the basis of baseline observations on 2,000 children, had contributed useful information on growth and development in this population and unique longitudinal data on bio-electroimpedance which provide the beginnings of normal standards and nomograms. The other is far more significant since it establishes that oral rehydration solution with 10 percent rice and treated with amylase to reduce viscosity is as well accepted and therapeutically effective as standard

ORS or the widely accepted ORS with 5 percent rice. The higher caloric density of the 10% rice preparation has a distinct advantage for minimizing weight loss during diarrhea.

The ADDR-funded study at INCAP has provided strong evidence on two significant issues. It has shown that laboratory facilities to determine occult blood add nothing of practical importance to the diagnosis of dysentery and that color of stools is useless as a diagnostic criterion. It has also demonstrated that it is not necessary to ascertain the etiology of the diarrhea in making the decision to treat with sulfonamides.

The approach used by ADDR in Guatemala is well adapted to a small country with very few institutions interested in or capable of research. The result is an almost ideal combination of encouraging young investigators and obtaining generally useful research. It could not have been applied to Thailand, however, without losing the opportunity to improve the research and teaching competence of a number of institutions both within Bangkok and in other parts of the country. Probably none of these investigators were ready to undertake projects of the sophistication of the three in Guatemala.

### PAKISTAN, January 25-28, 1993

There is no question that A.I.D. should be very pleased and proud of what the ADDR program has achieved for health research interest and competence in Pakistan and for the overall research environment. A large number of potential investigators have learned how to develop research proposals and research teams have been formed in a country in which there were only a few investigators working in isolation. Interest has been aroused in health research, and it has acquired more prestige. Many of the original groups have gone on to obtain support for further studies from other resources. Moreover, some of the findings have already been applied to programs and policy and the knowledge and experience gained from these projects has improved the teaching of preventive medicine in medical colleges throughout Pakistan.

One of the strong institutions, King Edward Medical College, is initiating a project writing workshop for the next generation modeled on the two run by ADDR in Pakistan, and several other institutions are attempting to do this for their own advanced students. Repeatedly, investigators interviewed emphasized the increase in collegiality that the ADDR Project has engineered and the willingness to give help and constructive criticism to each other. While the initial focus was on diarrheal disease few of the investigators were exclusively dedicated to this topic. Hence, the building of research capacity has benefit research on all aspects of health in Pakistan.

Because the Pakistan "portfolio" has been spread out at the U.S.A.I.D. mission's insistence over many different groups and institutions there is variation in the status of the institutions and the probability of their future research contributions. This approach was successful in introducing a large number of individuals to health research and in improving the overall environment for and understanding of its importance. However, it is unfortunate that the ADDR program in Pakistan was not allowed to select the best of the original group of investigators and given them additional support to move up another level of competence and sophistication. There is also now a need to follow-up the kind of help given for proposal development with similar help in the analysis of the research results and in preparing reports for publication.

It was also evident that the best consulting help and mentoring was in the area of diarrheal disease as originally intended. If A.I.D. wants the ADDR Project to incorporate

nutrition and ARI, and this is strongly recommended by most of the investigators, it must recognize the need for additional resources for consultants who are experts in these areas. To the investigators the issues of malnutrition cannot be separated from those of diarrhea and respiratory disease. Moreover at one season of the year, the principal health problem will be diarrhea but a few months later in a different season it may be respiratory disease.

## RESEARCH FOCUS

Asking ADDR to take on the responsibility of ARI projects with an add-on of only \$250,000 was unrealistic. It could not do so effectively without adding consultants with experience in this area, without going through the same proposal writing workshops as for diarrhea, and without having a management structure capable of such an additional burden. Projects concerned with the interaction of malnutrition and diarrhea were an appropriate part of the ADDR program from the beginning and any ARI research program should include related nutrition projects. However, for ADDR to handle research on the child survival component of nutrition would be a major undertaking.

Since ADDR has accepted the responsibility for supporting some ARI research, there should be a review of the additional management requirements and assistance in planning and prioritizing among the multiple demands on the limited funds available to the project during the present extension. What is most needed is a retreat-type meeting of all the professionals currently with program responsibility and any others to be involved to strengthen competence in ARI and nutrition research. Its purpose would be to assist the director in prioritizing needs and allocating funds among competing needs.

## Appendix 4



AGENCY FOR  
INTERNATIONAL  
DEVELOPMENT  
GUATEMALA

PLAZA UNO  
CALLE 7-66,  
1009 ZONA 9,  
GUATEMALA

USAID  
UNIT 3323  
PO AA 34024  
U.S.A.

FAX MESSAGE

IMMEDIATE ( )      PRIORITY ( )      NORMAL (x)

DATE: 09/17/92  
TO: Caryn Miller, LAC/DR/HPN  
FAX No.: (703) 875-4790 CITY Guatemala  
FROM/OFFICE: Baudilio López, OH&E  
APPROVED BY: Gary Cook, C/OH&E  
PAGE 1 OF 2

TEXT:

QUESTION # 1

In Guatemala ADDR provided financial and technical support to fund the following studies:

- a) Characteristics of the Rate of Recovery of Growth, Vitamin A Status and Body Composition After Dysentery Caused by Shigella. Dr. Bulax (principal investigator).
- b) Analyses of Host Risk Factors for the Development of Bloody Diarrhea and Dysentery Following Infection by Shigella and Campylobacter Jejuni. Dr. Cruz.
- c) Evaluation of Different Concentrations of Rice-ORS with Amylase Added for the Management of Acute Diarrhea and Dehydration in Infants.

Comments:

The project has selected appropriate themes and has assured the scientific quality of the research projects. If the results of the research are appropriately disseminated could help to resolve some issues regarding diarrheal diseases in Guatemala.

QUESTION # 2

Yes, ADDR could do more. The projects have been implemented by institution with recognized research capacity, however, MOH decision-makers had very limited participation, if any at all. For future projects ADDR should request researching institutions to work more closely with local Government decision-makers or implement the project in coordination with research units/offices of local Governments.

QUESTION # 3

USAID has very limited information. The only information we receive about these projects comes from ADDR. Mission had not received any information from the institutions implementing research at the local level so we are not well equipped to comment on whether the projects fostered linkages between research institution and implementation institutions.

QUESTION # 4

ADDR should advise local researchers to work with host Government counterparts, MCH Departments, Research Unit of the MOH, Epidemiology Division, etc. This will, in part, assure that research results are translated into policy decision and direct implementation of the findings.

QUESTION # 5

Yes

QUESTION # 6

ADDR is not a management burden, Mission has reviewed the proposals and had provided its comments. ADDR had been responsive the Mission concerns. However, we do not know what happens after project approvals. Local researchers have not contacted the Mission at all and we would encourage more contact.

(3468s)



UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT  
JAKARTA, INDONESIA  
Telephone: (62 21) 360-360  
FAX: (62 21) 380-6694

DATE: September 18, 1992  
FROM: Kenneth Farr and Ratna Kurniawati, HIRD/PH  
SUBJECT: ADDR's future plans  
TO: Dr. Caryn Miller, Technical Officer  
OFFICE/COMPANY: R&D/H/AR, Room 1254, SA-18  
ADDRESS: AID/Washington  
FACSIMILE NO.: (703) 875-4686

NO. OF PAGES (incl. cover page): 2  
Ext.: 2403

MESSAGE

Ref: ADDR letter, dated August 27, 1992

Dear Dr. Caryn K. Miller:

Thank you very much for sending us your letter and the Executive Summary of the ADDR Annual Report 1991. After reviewing the above documents, we have the following comments:

1. We are pleased to know that the Diarrheal and Respiratory Disease Research and Coordination (DRDRC) project has recently been amended to include respiratory diseases (and ADDR is one of the three components of the DRDRC), since respiratory disease still represents a major public health problem in Indonesia.
2. The ADDR project has selected appropriate themes for inquiry and encouraged interdisciplinary science, as well as assured the scientific quality of the research projects, workshops and commissioned papers funded under the project. However, we would emphasize that ADDR should persistently assure the application of the research results and involve a policy audience.
3. The Project impact could be increased during the next three years as ADDR endeavors to document its capability building model and identify effective methods for translating research results into implementation by the project coordination efforts; and collaboration with key policy personnel (decision makers) through dialogues or workshops.
4. The ADDR has not constituted an undue "management burden" for the Mission. We were happy that we could review proposals and participate in workshops. Current and future staffing consolidation in health may limit our participation in the future however.

80



UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT  
JAKARTA, INDONESIA

Telephone: (62 21) 360-360

FAX: (62 21) 380-6694

- 2 -

5. Since ADDR and PRITECH have related diarrheal disease control mandates, Dr. Lucia F. Tabor, PRITECH representative in Indonesia, will be available and willing to collaborate in organizing seminars or workshops, assisting with coordination of activities, collaborating particularly in the follow-on behavioral study. Also, PRITECH can provide office space to ADDR's consultants in country. (Similar collaboration between ADDR-PRITECH has occurred in Pakistan).

We wish you the best on your important activities..

81

## Nancy Sweeney - AID/Mexico

The following is in response to your letter of August 21, 1992 soliciting comments with respect to the review of the accomplishments of the ADDR project.

Approximately 16 thousand children in Mexico under the age of five die each year from diarrheal disease . Overall, diarrheal disease is the second leading cause of death (ARI's are the first) in this age group, and accounts for 15% of child mortality in the country.

In consideration of the above, the ADDR project is, and will continue to be, relevant to national priorities with respect to research, treatment, and management of diarrhea. However, it should be noted that A.I.D./Mexico, in response to operational guidelines from A.I.D./W, has concentrated its focus on a limited number of areas and strategic objectives. Consequently, the Health account for A.I.D./Mexico was discontinued in 1992, and we do not expect to receive new Child Survival funds in FY 93. While diarrheal disease control continues to be a priority for other donors, notably UNICEF and PAHO, A.I.D./Mexico will not be funding any new projects in this area after FY 92.

To date, ADDR has been highly supportive of country-based research on issues relevant to Mexico's needs in diarrhea control, has identified and supported outstanding Mexican researchers, and has provided technical assistance and materials to participating scientists. My impression is that the quality of scientific research has been consistently high.

ADDR has established a good working relationship with A.I.D./Mexico, and has not constituted a "management burden" for our office. We would expect this arrangement to continue, given the limited staff at A.I.D./Mexico and the fact that Child Survival activities are not specifically included within Mission objectives. Thus, a more active role for the Mission or a resident ADDR advisor would not be contemplated.

A.I.D./Mexico currently has a grant with the Mexican Health Foundation for ORT promotion activities of the National Diarrheal Prevention Council of the Ministry of Health. PAHO and UNICEF also support the Council. To date, ADDR has worked with the Mexican Social Security Institute, in the future, it would be highly desirable for ADDR to work more closely with the MOH. This type of collaboration would promote linkages and sustainability as well as increase impact of research, and coincide with activities supported by A.I.D./Mexico.



USAID/ISLAMABAD  
FACSIMILE TRANSCIVER COMMUNICATIONS SYSTEMS  
FAX DOCUMENT TRANSMISSION REQUEST FORM

F-7460/92

FAX# 92-51-824086

TELEX# 54270 USAIDPK

PHONE# 92-51-824071

Date: September 21, 1992

☒ Official ☐ Personal

From: Barbara J. Spaid, Deputy Chief, O/HPN  
Arjumand Faisel, Program Management  
Specialist, O/HPN, Islamabad

Signature: Li Bradshaw

Signature: Li Bradshaw

To: Caryn Miller, Ph.D  
Technical Officer  
R&D/H/AR, Room 1254, SA-18

FAX No.: (703)875-4686

Approved By: Anne H. Aarnes, Chief, HPN  
Name and Title of Office Chief

Anne Aarnes  
Signature

No. of Pages: 2

Subject: ADDR Project in relation to Child Health Research

This is in response to your fax dated August 21, 1992 regarding comments on the ADDR project in relation to Child Health Research.

In Pakistan, ADDR activities began on a significant scale about a year back. Approximately 30 research proposals on the subjects of diarrhea, ARI and nutrition have either been funded, or are in the process of obtaining approval for funding. The following answers to your questions should be viewed with this background:

1a. The ADDR representatives met the National Program Managers for Diarrhea/EPI, ARI and nutrition as well as leading Pakistani researchers to develop themes which were later proposed to research teams for investigation. The project has worked with appropriate institutions in the country

TO BE COMPLETED BY C&R

Date transmitted: \_\_\_\_\_

Time logged: \_\_\_\_\_

Charges Rs.: \_\_\_\_\_

\_\_\_\_\_  
C&R Supervisor

43

to promote a more coordinated approach to research and to use of research findings to improve program implementation.

1b. Concerted effort has been made to bring inter-disciplinary scientists into the health research community as few nutritionists and social scientists have been involved with physicians in research work. ADDR is attempting to involve local anthropologists and statisticians wherever possible.

1c. Scientific quality of the proposals have been high, and the presence of an in-country research advisor/coordinator helps ensure that the same vigorous support and monitoring will be continued by the ADDR during the completion of the project.

2. From the proposed plan of activity and the work accomplished until now, it appears that ADDR will be able to build the capacity for independent research in more than twenty teams in important institutions in Pakistan. Additionally, attempts to strengthen the Pakistan Medical Research Council (PMRC) as a research coordinating body, resource center, and results disseminator are underway.

3a. At this stage it is not possible to comment on the linkages between research and implementation; however, this very linkage is a priority for the activity in Pakistan.

3b. Involvement of senior and junior staff on the research teams; responding to the technical needs of the researchers; bringing program managers close to the researchers; and the presence of an in-country resident advisor, are key factors likely to lead to productive research results that could help in better program implementation and in building research capability in the country. Research is ~~conducted with INTERF in several studies~~

4. ADDR should continue to actively involve national program managers and other policy makers, planners and program implementors in activities/meetings related to the ongoing research. This will make the key figures more receptive to the results and to required programmatic changes.

5. ADDR and Mission staff have worked well together and ADDR has been responsive to Mission.

6. ADDR is not a "management burden" for the Mission, especially since the arrival of a long-term advisor. Mission plays a very active role in the Project and has a close working relationship with the advisor. It is clear to us that the in-country advisor is critical to a successful outcome to this effort.

We hope that this response will meet the external reviewers requirements. The team members are welcome to contact us if they need any further information or clarification.

Regards.

ACTION  
COPY

UNCLASSIFIED  
AGENCY FOR INT'L DEV.  
TELECOMMUNICATIONS CENTER

INCOMING  
TELEGRAM

PAGE 01 OF 02 ABIDJA 17966 00 OF 02 291735Z 9122 031235 AID1547  
ACTION AID-00

ACTION OFFICE HEAL-04

INFO AFCW-03 RDPO-01 POSP-01 RDAA-01 PVC-02 STN-01 FHAA-01  
POP-06 SEOP-01 SERP-01 AMAD-01 FABP-02 POCE-01  
/026 AB 31/2045Z

INFO LOG-00 AF-00 CIAE-00 DODE-00 EE-00 /0034  
-----744302 292319Z /64 30

R 291734Z OCT 92  
FM AMEMBASSY ABIDJAN  
TO SECSTATE WASHDC 3066

UNCLAS ABIDJAN 017966

AIDAC

FOR RD/H, CARYN MILLER

E.O. 12356: N/A  
SUBJECT: ADDR EVALUATION

REF: FAX DATED 10/16/92

1. THE MCH COMPONENT IN THE HEALTH AND FAMILY PLANNING PROJECT IS COMMITTED TO REDUCING CHILD AND MATERNAL MORTALITY IN COTE D'IVOIRE. THE APPLIED RESEARCH EFFORTS IN THE HFP PROJECT ARE DIRECTED MAINLY TO PROVIDE SUFFICIENT INFORMATION FOR PLANNING AND POLICY DEVELOPMENT IN THE CHILD SURVIVAL INTERVENTIONS, MAINLY CONTROL OF DIARRHEAL DISEASES, ACUTE RESPIRATORY INFECTIONS AND MALARIA. WE ARE ALSO MOVING TOWARDS AN APPROACH TO TREAT THE SICK CHILD RATHER THAN TO FOCUS ON SPECIFIC INTERVENTIONS. THIS WILL MEAN THAT WE NEED TO EXPLORE THROUGH RESEARCH HOW SUCH FACTORS AS NUTRITION

AND INTERACTION OF DISEASES INFLUENCE CHILD SURVIVAL.

2. A SECONDARY OBJECTIVE IS TO CREATE A CORE OF RESEARCHERS, CAPABLE OF INITIATING AND CARRYING OUT APPLIED RESEARCH IN AREAS OF INTEREST TO THE MCHSP. IN ADDITION, WE NEED TO BUILD CAPACITY IN OPERATIONAL RESEARCH NOT ONLY IN RESEARCHERS IN COTE D'IVOIRE, BUT ALSO IN PERSONNEL WORKING IN THE REGIONAL AND DISTRICT LEVELS. THUS, WE WOULD BE INTERESTED IN SPONSORING APPLIED RESEARCH WORKSHOPS HERE IN COTE D'IVOIRE BOTH TO INCREASE RESEARCH CAPACITY, BUT ALSO TO FOSTER ATTITUDES WHICH LOOK AT PROBLEM-SOLVING AS A RESEARCH PROCESS, I.E., GATHER AND ANALYZE DATA TO ASSESS SOLUTIONS, WITH EVALUATIONS OF THE IMPLEMENTATION OF THE PROBLEM-SOLVING ACTIONS.

A) IN GENERAL, ADDR'S CURRENT ROLE IS APPROPRIATE, ESPECIALLY SINCE THE PROJECT HAS SHOWN FLEXIBILITY IN TRYING TO ACCOMMODATE OUR NEEDS. FOR US IT IS ESPECIALLY IMPORTANT THAT ARI HAS BEEN ADDED AS A FOCUS FOR THE RESEARCH. IT WOULD BE OF INTEREST TO US, IF MALARIA WAS ALSO ADDED SINCE IN AFRICA CHILDREN WHO SUFFER FROM EITHER DIARRHEA OR ARI ARE ALSO INFECTED WITH MALARIA PARASITES, AND IT IS DIFFICULT TO ASCERTAIN THE IMPORTANCE OF THIS FACTOR IN CAUSING THE CHILD'S ILLNESS. WITH REGARD TO DIARRHEAL DISEASES, WE WILL FOCUS IN THE COMING YEARS ON HOW NUTRITIONAL DEFICIENCIES CONTRIBUTE TO THE SERIOUSNESS OF THE ILLNESS.

B) CONCERNING RESEARCH BUILDING CAPACITY, WE WOULD LIKE

TO HAVE AN ADDITIONAL APPLIED RESEARCH COURSE HERE IN COTE D'IVOIRE WITH PARTICIPANTS FROM BOTH THE CENTRAL

ABIDJA 17966 00 OF 02 291735Z 9122 031235 AID1547  
AND INTERMEDIATE LEVELS IN THE MINISTRY. SINCE MALARIA WILL ALSO BE A TOPIC, WE FEEL THAT IT WOULD BE APPROPRIATE TO USE THE ADDR GROUP IN CONJUNCTION WITH CDC FOR THIS REPORT IN ORDER TO DRAW ON THE DIFFERENT STRENGTHS OF THE TWO INSTITUTIONS.

C) IN TERMS OF SUSTAINABILITY, WE FEEL THAT THE MAJOR FACTORS TO EVALUATE ARE (1) DID THE RESEARCH AFFECT THE PLANNING PROCESS AND LEAD TO THE DEVELOPMENT OF APPROPRIATE POLICIES IN CDD AND ARI? AND (2) HAVE RESEARCHERS TRAINED BY ADDR INITIATED AND CARRIED OUT OTHER RESEARCH PROJECTS? AND (3) IS THE QUALITY OF THESE OTHER RESEARCH PROJECTS SUCH THAT THEY COULD BE PUBLISHED IN A SCIENTIFIC JOURNAL?

D) IN ORDER TO MAXIMIZE THE IMPACT WE THINK THAT ADDR HAS TO BE RESPONSIVE TO THE NEEDS EXPRESSED BY MCHSP OFFICIALS AND PROJECT COORDINATORS IN THE COUNTRY. IT IS ESPECIALLY IMPORTANT TO BE AWARE OF THE OPERATIONAL PROBLEMS WHICH ARE FACING THE DIFFERENT PROGRAMS. SOME OF THESE ISSUES MAY BE SYSTEM OR ORGANIZATIONAL ISSUES WHICH NEED TO BE EXPLORED AS FAR AS THEY AFFECT ORT AND ARI TREATMENTS.

E) WE ALSO FEEL THAT ATTENTION SHOULD BE PAID TO DISSEMINATION OF THE RESULTS NOT ONLY IN THE SCIENTIFIC COMMUNITY, BUT ALSO WITHIN THE HEALTH SYSTEM IN THE COUNTRY. THIS WILL NOT ONLY LEAD TO THE USE OF THE RESULTS ON A BROADER SCALE, BUT ALSO DRAW THE ATTENTION

OF HEALTH WORKERS TO THE NEED OF GATHERING INFORMATION AND USING IT TO SOLVE PROBLEMS.

F) APART FROM THE INSTITUTIONS AND PROGRAMS ADDR IS ALREADY WORKING WITH, THERE ARE RESEARCH PROGRAMS FOCUSING ON BIOMEDICAL RESEARCH, VECTOR CONTROL AND HIV/AIDS. COLLABORATION WITH RETRO-CI WILL OCCUR THROUGH THE ORT CENTER IN TREICHVILLE. FOR OTHERS, THE FOCUS IS SUFFICIENTLY DIFFERENT THAT COLLABORATION WILL NOT BE NECESSARY UNLESS SPECIFIC ISSUES WARRANT SUCH COLLABORATION.

G) THE MISSION HAS PLAYED AN ACTIVE ROLE IN THE PROJECT BY PARTICIPATING IN THE REVIEW OF THE PROPOSALS AND BY

GIVING FEEDBACK ON PROJECT GOALS AND OBJECTIVES RELATED TO THE DIFFERENT PROPOSALS SUBMITTED FROM THE COTE D'IVOIRE. WE HAD REQUESTED THIS INVOLVEMENT AND FOUND THAT IT WORKED FAIRLY WELL. ADDR WAS RESPONSIVE TO OUR COMMENTS AND WE ANTICIPATE THAT THIS CLOSE COLLABORATION WILL CONTINUE DURING THE IMPLEMENTATION OF THE DIFFERENT RESEARCH PROPOSALS. SO FAR ADDR HAS NOT CREATED A MANAGEMENT BURDEN FOR THE MISSION.

H) AT THIS POINT WE SEE NO NEED FOR A RESIDENT COUNTRY ADVISOR. AS PART OF THE CCCD PROJECT CDC STATIONED EPIDEMIOLOGISTS IN CERTAIN COUNTRIES (INCLUDING COTE D'IVOIRE) TO ENCOURAGE AND SUPPORT APPLIED RESEARCH. THE EPIDEMIOLOGISTS WERE WITHDRAWN AFTER ABOUT 4 YEARS SINCE IT WAS DECIDED THAT IT WAS NOT COST-EFFECTIVE TO HAVE THEM IN THOSE COUNTRIES. CURRENTLY CDC HAS AN

EPIDEMIOLOGIST IN NIGERIA. WE THINK THAT UNLESS THE SCOPE OF WORK FOR THE EXPERT IS ENLARGED TO INCLUDE OTHER FUNCTIONS, THERE ARE NOT SUFFICIENT RESEARCH ACTIVITIES FOR A FULL-TIME PERSON IN A COUNTRY OR EVEN IN THE REGION.

I) THE "I" PROBLEM WE CAN ANTICIPATE IS THAT AT SOME POINT THE NEEDS WILL FOCUS MORE ON OPERATIONAL ISSUES

BEST AVAILABLE COPY

UNCLASSIFIED  
AGENCY FOR INT'L DEV.  
TELECOMMUNICATIONS CENTER

INCOMING  
TELEGRAM

PAGE 02 OF 02 ABIDJA 17566 00 OF 02 291735Z 9122 031235 AID1547  
THAN ON THE TYPE OF RESEARCH PROPOSALS WHICH HAVE BEEN  
SUBMITTED SO FAR. WE ARE HOPING THAT, AT THAT TIME, WE  
WILL HAVE A RESEARCH CAPABILITY HERE IN COTE D'IVOIRE  
WHICH CAN HANDLE SUCH TOPICS.

J1 ANOTHER ISSUE IS MORE FUNDAMENTAL AND IS RELATED TO  
THE DEFINITION OF THE PROJECT AND THE STRATEGY OF  
LOOKING AT HEALTH ISSUES AS THEY RELATE TO SPECIFIC  
DISEASES RATHER THAN EXPLORING THE INTERACTION OF ALL  
THE FACTORS AND HOW THEY AFFECT CHILD SURVIVAL. SO FAR,  
ADDR HAS BEEN ABLE TO RESPOND TO OUR CONCERNS IN THIS  
AREA, BUT THERE IS A POTENTIAL FOR CONFLICT HERE.

3. THESE ARE THE MAIN COMMENTS WE HAVE REGARDING THE  
ADDR PROJECT. PLEASE FEEL FREE TO CONTACT DR. SIF  
ERICSSON IF YOU NEED FURTHER INFORMATION. HORAN

UNCLASSIFIED

86



Téléphone Central/Exchange: 791.21.11  
Direct: 791 2632

In reply please refer to:

Prière de rappeler la référence:

Dr Caryn K. Miller  
Technical Officer  
Office of Health  
Bureau of Research and  
Development  
Room 1254, SA-18  
320 Twenty-First Street, N.W.  
Washington, D.C. 20523

23 September 1992

Dear Dr Miller,

I refer to your letter of 3 September requesting our comments on the activities of the Applied Diarrheal Disease Research Project (ADDR).

Our response to the questions you raise are as follows:

1. The ADDR research priorities listed on pages iii and iv of the Annual Report fall in four general areas: "behavioural studies of caretakers and health care providers", "foods and fluids", "prevention of diarrhoea", and "persistent and invasive diarrhoeas". It is also planned to develop closely related research programmes in ARI, nutrition and malaria, if sufficient funds are available (see pages iv and 9). This is a broad array of topics, and we feel that there is an urgent need to focus the limited resources that are available globally for diarrhoeal and respiratory disease research on work that has the greatest potential to strengthen control efforts in developing countries. Our CDD and ARI programmes have identified a number of priorities for research, which are described in the documents that are being sent to you under separate cover. In CDD, increased emphasis is being given to research activities related to programme implementation, to determine the effectiveness, cost and optimal methods of delivery of interventions for the control of diarrhoeal diseases when applied on a large scale under usual health service conditions.
2. We of course firmly believe that diarrhoeal and respiratory disease research represent important investments for AID funds over the next 10 years. We are concerned that the global funds presently allocated to ARI research are limited, given the magnitude of the problem and the many important research questions unanswered with regard to childhood pneumonia in developing countries.
3. ADDR has played an important role in stimulating interest in diarrhoeal disease research in developing countries, in fostering multi-disciplinary research teams, and in providing them with the required technical assistance and funds to design, implement, analyze and write up priority studies. We hope that this work will continue over the next few years.

4. We feel that the planned efforts to identify effective methods for translating research results into policy and implementation represent an important activity over the next few years. We are also seeking approaches to foster improved communications between the research and public health communities at global and country levels, so that research focuses on issues that are of greatest concern to CDD and ARI programme managers, and research results are made rapidly available and are used by programme staff. In a few countries that we know of, such as the Philippines and China, workshops have been conducted which brought together programme personnel, researchers and representatives from funding agencies in order to review national CDD-related research activities and to define priorities for future research, with emphasis on topics that are of greatest relevance to national CDD programme implementation (an extract from our latest CDD Programme Report is being sent under separate cover). Perhaps this is an approach that ADDR would be interested in trying out.
5. We are pleased with the close collaboration between ADDR, ICDDR,B and our programmes that is facilitated by A.I.D. through regular coordination meetings and through informal contacts at other times.

We hope that these comments are helpful. Please do not hesitate to contact us should you require further information.

Yours sincerely,



Dr J. Tulloch  
Director  
Division of Diarrhoeal and Acute  
Respiratory Disease Control

Sent under separate cover:

Draft ARI research priorities  
CDD research priorities  
Box on research strengthening in the Philippines from CDD Annual Report

International Centre for  
Diarrhoeal Disease Research,  
Bangladesh



GPO Box 128, Dhaka-1000, Bangladesh  
Tel : 880-2-600171-8  
Fax : 880-2-883116  
Telex : 675612 ICDD BJ  
Cable : Cholera-Dhaka.

From Demissie Habte, M.D. Date 29.9.92 Time

To USAID, Washington

Attn. Caryn K. Miller, Ph.D., Office of Health, Bureau of Res. & Dev., Rm 1254, SA-18

Dear Caryn,

Re: External Review of ADDR

I have just returned from my trip to Japan and Australia and am responding to your letter on the above. I will do so by referring to the five questions posed.

1. The most important diarrhoeal disease research questions have been articulated in ICDDR,B's Strategic Plan and in research priorities identified by WHO/CDD. The priorities identified by ADDR are appropriate. In ARI, epidemiological studies, including on etiology and antibiotic sensitivity, and studies of treatment at the household as well as the PHC level will be appropriate.
2. Diarrhoeal and respiratory disease persist as critical determinants of child survival and research to control them is clearly a priority. AID has accumulated considerable experience in supporting research in diarrhoeal diseases in diverse settings and this investment should be built upon. In particular, AID should place more emphasis on efforts at research capacity building and strengthening.
- 3&4. ADDR has grown over the years and made important contributions. Given that one of its stated mandate is research capacity building, it should considerably expand its involvement in this sphere, progressing from supporting individual researchers to additionally building/strengthening institutions. While training and supporting individual researchers is a necessary pre-requisite, long term sustainability can only be assured by simultaneous development of viable institutions, and by promoting institutional linkages (networking and twinning). The latter should be within a country, at regional level (south-south) and through a twinning arrangement (north-south).

Networking / twinning means reciprocation in technical training, exchange of researchers, exchange of scientific knowledge, research collaboration, organizing scientific conferences, sharing of facilities, etc.

ADDR should try to operate through Essential National Health Research working groups where these exist.

../2.

89

International Centre for  
Diarrhoeal Disease Research,  
Bangladesh



GPO Box 128, Dhaka-1000, Bangladesh  
Tel : 880-2-600171-8  
Fax : 880-2-883116  
Telex : 675612 ICDD BJ  
Cable : Cholera-Dhaka.

From Demissie Habte, M.D.

Date 29.9.92

Time

To USAID, Washington

Attn. Caryn K. Miller, Ph.D., Rm 1254, SA-18

- 2 -

5. We have a very good collaboration with ADDR and anticipate further strengthening and collaboration in several areas, including research capacity building.

To conclude, ADDR is making important contributions in promoting research into diarrhoeal diseases, and its planned involvement in ARI research is welcome. Its role in capacity building should be strengthened.

Yours sincerely,

A handwritten signature in cursive script, likely belonging to Demissie Habte, is written above the typed name.

Demissie Habte, M.D.,  
Director.

# PRITECH

*Technologies for Primary Health Care*

September 18, 1992

Caryn K. Miller, Ph.D.  
Technical Officer  
Office of Health  
Bureau of Research and Development  
Room 1254, SA-18  
320 Twenty-first Street, N.W.  
Washington, D.C., 20523

Dear Dr. Miller:

Regarding your request of September 3, 1992, our staff here at PRITECH has prepared a response to the questions that you posed regarding the direction we might suggest for the ADDR project over the next four years. I want to thank you for the opportunity to consider these issues which are important not only for ADDR, but relate to issues that PRITECH also has pondered in regard to its operational research activities as well.

Taking the points you raised in order, our response will elaborate rather extensively on the first question regarding relevant research issues in CDD and ARI programs over the next 5 years based on our CDD country program experience in over 15 countries. The second question on the importance of A.I.D.'s funding to support the research efforts in CDD and ARI was easier to answer. The response to the third and fourth points are linked together in that any suggestions on how to increase the impact of ADDR in the future should relate to some critique of its current *modus operandi* for identifying research issues and the subsequent programmatic impact of its current contributions. And lastly, possible opportunities for greater collaboration and coordination between us and ADDR are presented.

Our main concern is with the issue contained in question three that we believe underlies all the questions which you pose: the serious lack of connection between ADDR's research efforts and the needs of national programs, as indicated by applications of research findings in national CDD programs. Our experience is limited to the countries where PRITECH has had active programs, almost twenty countries thus far. Although there may be situations that we don't know about, we can identify only one clear example where

interaction between ADDR researchers and CDD program managers has led to research activities which respond to program needs. Moreover, we question whether ADDR's usual approach to identifying research topics is likely to lead to applications of useful research findings. We believe that there are more effective approaches. In the following comments, we have tried to focus on the specific questions you pose; however, we would welcome opportunity to discuss further the concern which we raise in this paragraph.

Your first question asks what are the most important diarrheal and respiratory research questions to be addressed over the next 5 years, and how these contribute to the implementation of child health projects in developing countries. Since PRITECH's emphasis is in diarrheal disease, our comments will be obviously more detailed for that disease rather than for respiratory illnesses, although there is cross-over on many points.

In the area of diarrheal disease we see the research issues divided between those of a technical nature and those related to programmatic issues. Generally speaking, those technical issues facing CDD programs today are:

#### 1. Interaction with Nutrition

Multiple and persistent diarrhea episodes have an adverse effect on nutritional status and growth, and malnutrition appears to be a risk factor for diarrheal episodes of increased severity and duration. Appropriate feeding and breastfeeding are now recognized as an important part of diarrhea management. Also the role of exclusive breastfeeding for the first 4-6 months is an acknowledged measure critical to the prevention of diarrhea. Micronutrient deficiency (particularly Vitamin A and possibly zinc deficiency) is associated with increased diarrhea morbidity and mortality. These interactions and recent documentation that feeding during diarrhea reduces the severity and the duration of symptoms underline the importance of nutritional considerations in the prevention and management of diarrhea. Literally the same statements can be applied to respiratory infections as well.

The challenges facing CDD programs are (1) to collaborate with nutrition programs to develop simple, accessible and culturally acceptable recommendations for improving infant feeding practices, both during health and during illness, (2) to train and encourage health workers to reinforce nutrition messages during health care visits, (3) to take advantage of other channels in the community and program opportunities for presenting feeding recommendations.

92

## 2. Continuing Importance of Dysentery and Persistent Diarrhea

Persistent diarrhea and dysentery are frequently grouped together although the diagnoses are distinctly different. In the changing pattern of diarrheal disease over time, persistent diarrhea and dysentery now may account for up to 50% of diarrhea-associated deaths in children under 5 years. Little has been done in the area of preventive interventions for both these forms of diarrhea.

Persistent diarrhea is best treated with nutritional interventions and ADDR has played a major role in researching its treatment algorithm. But the nutritional management of persistent diarrhea needs to be more clearly defined and the case management instruction passed on to health workers. What is the appropriate community-based protocol for the management of children with persistent diarrhea?

Likewise for dysentery, appropriate treatment algorithms are being tested. The primary treatment for dysentery is antibiotics; strategies for treatment of dysentery, particularly shigellosis, which limit the spread of antibiotic resistance need to be developed.

## 3. Home Management of the Child with Diarrhea

It is recognized that most diarrhea episodes are self-limited and can be safely managed by the administration of increased amounts of home available fluids (including water) together with food. The key technical issues for home management include: (1) behavior change methods to reach caregivers and to support appropriate home management, (2) identification of appropriate home available drinks for use in early diarrhea, (3) the safety of traditional teas or decoctions when given in large volumes, (4) nutritional and hygienic improvement of first foods, and (5) the effectiveness of home fluids and foods in preventing the development of dehydration.

## 4. Promising Preventive Measures

Little research has studied the cost-effectiveness of preventive measures, although it is known that effective prevention measures result in lower diarrhea case rates. Studies indicate that handwashing can lower significantly diarrhea rates as can the availability of clean water in the home provided that its quality is maintained.

## 5. Integrating CDD Case Management with Care of the Sick Child

Many children present to health facilities with more than one symptom. What is the appropriate algorithm for a child with rapid breathing and diarrhea? With high fever and cough? For a child with diarrhea who is at high risk for AIDS? Under what circumstances is the periodic treatment of stool parasites indicated? These are the clinical situations that most frequently present to those health workers in facilities caring for the poorest segment of a population where malnutrition is an underlying problem for most cases.

More specifically, what are the sensitivities and specificities of different protocols for the management of the sick child (combining protocols for ARI, diarrhea and malaria)?

## 6. Longer-Term Technical Issues

Vaccines for protection against several enteric diseases (rotavirus, typhoid, and cholera) are ready or will be ready within the next several years for mass distribution. Other vaccines against shigellosis, E. Coli and non-typhoid salmonella diarrheas may be available in the next decade. These efforts should be vigorously promoted.

Finally, efforts to improve the nutrition of weaning-age children have shifted from the development of new recipes and provision of imported supplements, to the promotion of recommendations based on minor modifications of locally used, available foods. Where traditional processes of fermentation and malting can be encouraged, there are added advantages in terms of improving digestibility and microbiological safety as well as nutrient content.

Under the category of programmatic issues, the following issues are important research questions:

### 1. Sustaining Behavior Change in Health Workers

The real goal of CDD and ARI training is to change the behavior of health workers so that they will provide quality health care services to those in need. Recent improvements in CDD training include the addition of communication skills and increased emphasis on nutrition and breastfeeding. But even when training efforts have successfully transferred the technical skills in CDD, numerous health facility surveys have documented less than optimal case management at the health

facility level. This is especially true for the counselling activity that should accompany each treatment encounter.

The outstanding question is what motivational, educational and supervisory strategies are most effective to sustain the health workers' performance to consistently provide a high quality standard of care. This would include the counselling service as well as the identification and addressing of nutritional problems. Also what are the most effective mechanisms and methods for teaching and supporting supervisory skills both at the health facility level and above?

## 2. Reaching Care Takers and Promoting Behavior Change

National CDD programs can be credited with bringing about high ORS access rates and high rates of awareness of ORT over the past 10 years. The next challenge for them is to improve ORS use so that it is given with adequate frequency and in sufficient volume, and to decrease the demand for and use of inappropriate antidiarrheals and antibiotics. The problem applies to ARI efforts as well.

Another related issue is the relative costs and effectiveness of alternative methods for reaching high risk children, particularly those who do not access government health services. This will require research on patterns of care-seeking behavior among high risk families. Alternative methods might include collaboration with private sector providers such as private practitioners, traditional healers and drug sellers, the training of community-based workers, or promotion of products and messages through commercial organizations.

## 3. Rational Drug Use

The use of drugs in a rational manner is an integral part of case management. Antimicrobials in particular are used inappropriately in management of diarrhea and respiratory illnesses. According to WHO, almost 50 percent of children with diarrhea receive a drug inappropriately. We are challenged to identify the specific prescribing abuses in health facilities as well as drug use behaviors in the home and then to determine the relative effectiveness of different educational, supervisory and regulatory mechanisms to promote the rational use of drugs in treating these two illnesses.

Your second question regarding the importance of diarrhea and respiratory diseases research for A.I.D. funds is best answered by the fact that these two illnesses remain at the top of the list of major killers of children in developing countries today. More importantly, the key research issues faced by programs at this

95

point in time are critical for all aspects of primary health care. Just as CDD and ARI programs have revolutionized primary health care through the development of standardized protocols and evaluation tools, the programs have great potential to contribute to the evolution of PHC through research on the next level of tasks: supervision, rational drug use, communications and integration of services and functions.

Research capacity strengthening does contribute to A.I.D.'s mandate as a development agency through the training of national advocates and leaders in public health who will assume the responsibility for policy development and implementation. The model followed by ADDR is particularly appropriate and relevant. By training researchers in their own countries, the risk of the "brain drain" is minimized.

The response to your next two questions will be combined since they are related to one another. To evaluate the contributions of the ADDR research thus far, one must consider that in addition to building research capacity, the project's other objective is to produce research results that will affect policies and programs in the recipient countries leading to improved case management and prevention of diarrheal diseases. We are left with the question, "Have the studies had any programmatic impact?" While the subject matter for many of the ADDR-sponsored studies have addressed several of the research areas identified earlier in response to your first question, there is little evidence that can point to use of these results by any CDD national program. Several reasons may explain this situation.

First, in order to address the relevant research issues, the CDD program managers must be involved in the selection of the questions for study and to some degree, the design of the protocols. This is a point that was made by Dr. Rob Northrup in a letter to Ms. Roxanne Vandusen in 1990 commenting on the review of the ADDR project. It has also been echoed by some of our country representatives as well. In many situations it is the researcher who has identified the question without actively involving the program staff. As a result for example, KAP studies will be selected which may identify and document a particular behavior or problem, but will not indicate the best possible options for programmatic interventions to bring about change.

Taking this point one step further, it is of little benefit for a program to have results of an efficacy study done on an intervention since it will only provide the maximum possible potential for that intervention under optimal conditions. What a programmer wants are research results on effectiveness of an intervention done under true field conditions with all the potential difficulties and failures in implementation that can occur. This is the essence of applied research.

Second, the technical quality of the research is obviously important if the results are to be useful in programmatic decision-

making. This implies that the technical assistance provided by the project would assist in identifying priority research topics and in developing sound proposals rather than relying so heavily on the researchers to determine the design of the studies. Furthermore, they would follow up the study during its implementation as well as through the analysis and application phases. Failure to do this can give program managers misleading information as occurred in Kenya. And this model is not contrary to capacity building but rather could save young researchers a great deal of frustration at the same time yielding more productive efforts.

In order to increase the impact of the ADDR project on programs and policy and to advance its capacity building potential, several suggestions are advanced:

- 1) the potential researchers should work directly with the program team members, perhaps in a closed workshop setting, in order to fully grasp what are the particular problems in the respective programs. Only then can the potential research questions be teased out from the challenges facing the national programs.
- 2) it is important that there be continuing interaction of the national team with the program personnel throughout the implementation of the study in order to review the progress of the work in detail and to continually bear in mind the eventual application of the findings to national program activities.
- 3) the results of the research efforts should be shared not only with the country program but also disseminated to others working with the same issues and problems. This could be done through the mechanism of annual regional conferences as suggested in the evaluation of 1990 and through other available information networks such as the PRITECH Information Center.
- 4) the technical assistance rendered by the project will be extended throughout all phases of the study process. Hopefully this will lead to more sophisticated, qualitative, and intervention-oriented studies of behaviors and clinical issues related to case management.

Lastly, you asked how ADDR could increase its coordination and collaboration with our project. This can be approached at two levels: at the project headquarters, but more importantly at the country level. At the headquarter level, we have on one occasion in 1990 invited the ADDR staff to our office for a presentation of some preliminary results of a few studies. This was mutually well received and it was agreed that there was a need for more frequent contact between us. But this has not taken place so far although the projects continue to share information informally.

At the country level, ADDR could provide PRITECH access to local researchers and research findings, while PRITECH can provide access to programmers and policy-makers in the ministries of health. In fact, this arrangement has been useful in ADDR's recent visit to Cameroon. Mexico is another country where both projects could collaborate their efforts. But except for Uganda and Inndonesia, there is no other country-specific overlap between the two projects.

Again, I thank you for the opportunity to contribute to this 'brain-storming' activity as it is stimulating for us as well to consider how we might better maximize the limited resources both within A.I.D. and in the countries in which we serve.

Please feel free to call on us again if we can be of further assistance to you.

Sincerely,



Larry Casazza, MD MPH

cc: G. Patterson, PRITECH  
R. Simpson, PRITECH  
A. Bartlett, USAID  
R. Northrup, Brown University  
A. Prins  
R. Black, Johns Hopkins SPH  
E. Herman, Johns Hopkins SPH



**WATER AND SANITATION  
FOR HEALTH PROJECT**

Operated by CDM and Associates

Sponsored by the U.S. Agency  
for International Development

WASH Operation Center  
1611 N. Kent St., Room 1001  
Arlington, Virginia 22209-2111 USA

Telephone: (703) 243-8200  
Telex: WUI 64552  
Cable Address: WASHAID  
Fax: (703) 243-9004

24 September 1992

Caryn K. Miller, Ph.D.  
Technical Officer  
Office of Health  
Bureau of Research and Development  
Room 1254, SA-18  
Agency for International Development  
Washington, DC 20523-1817

Dear Dr. Miller:

Over the past five years, WASH has collaborated with ADDR by reviewing proposals relevant to water use and sanitation practices. WASH staff in health, hygiene and community participation met with ADDR staff to review issues on hygiene behaviors for diarrhea prevention.

ADDR has established a unique process of eliciting research priorities from national governments, helping them define their priorities and funding some exceptionally important and relevant topics. ADDR addresses issues of prevention in its objectives and does to some extent, fund such research proposals. However, given the shift within the agency and its programs from specific child survival interventions to a broader based child health perspective, more of the preventive agenda needs to be addressed.

This broadening in focus from child survival to child health, is essentially a renewed focus on the survival of nations in the face of droughts, civil wars, and undemocratic and unparticipatory governments and political systems. With this backdrop, the preventive agenda of ADDR needs to be opened even further and possibly include those doing research on issues such as the education of mothers and relevance to preventive health.

To date, ADDR has been open primarily to those in the medical community-- both preventive and curative. ADDR's experience, as has been so eloquently articulated by Henry (1991) in the Journal of Diarrheal Research, has shown that a better understanding of culture specific beliefs of diarrhea typologies, and a better understanding of behaviors is an important cornerstone for programmatic interventions.




For this reason, ADDR will need to open its policy meetings to behavioral scientists: psychologists, sociologists and anthropologists in defining its preventive agenda. Unfortunately, the skill level in this type of research is not very strong in many of the developing countries." Scientific", usually quantitative research, is seen to be more relevant and reliable-- especially by national governments. Qualitative research methods are less known and skills in these areas need to be developed.

A second issue that ADDR needs to pay more attention to is the implementation of micro research findings to national programs. How can ministries of public health use qualitative data in its national programming? After all, the health of the child and the survival of the nation is dependent on the practice of these research findings.

To help your team members, we are enclosing two WASH technical reports. **Rethinking Sanitation: Adding Behavioral Change to the Project Mix** attempts to understand the role of qualitative data on behavior in effective programming for hygiene education. **Institutionalizing Community Management: Processes for Scaling Up** explores type of institutional interventions that need to be put in place so that micro, community based interventions can be implemented on a national bases.

We hope that the above ideas are helpful to your evaluation team. We , at WASH , look forward to continuing our collaborative relationship with ADDR. In the mean time, should you have any further questions or require further clarifications, please do not hesitate to get in touch.

Sincerely,

  
J. Ellis Turner  
WASH Project Director

cc: John H. Austin, R&D/H/CD



PUSAT KELANGSUNGAN HIDUP ANAK  
UNIVERSITAS INDONESIA  
(PUSKA - UI)

Center for Child Survival, University of Indonesia

Address : Fakultas Kesehatan Masyarakat, Kampus Universitas Indonesia, DEPOK Jawa Barat, INDONESIA Tel. 727. 0014, Fax. 727. 0014

No. : 0234/CCS.K/X/92  
Re : Assessment of ADDR

October 1, 1992

Caryn K. Miller, Ph.D.  
Technical Officer  
Office of Health  
Bureau of Research and Development  
Room 1254, SA-18  
USAID  
320 Twenty-First Street, N.W.,  
Washington, D.C. 20523  
U S A

Dear Dr. Miller,

In response to your letter dated September 9, 1992 regarding the topics as mentioned above, follows please find our response :

First, the most important diarrheal and respiratory disease research questions to be addressed over the next 5 years.

1. Diarrheal disease :

- a. Fluids / (ORS) for child diarrhea which has the dual functions, i.e. reduces frequency of diarrhea and rehydrates the patient so far, ORS has only the latter effect, and this is perceived as the lack by the low educated population.
- b. Food during and after diarrhea  
In Indonesia, and I am sure also other developing countries, the food habit varies greatly, especially for the child. The development and then encouragement of food comprised of locally available stuff, which is medically suitable during and after diarrhea, will be very important.
- c. Traditional herbs for diarrhea.  
The examination of the traditional medicine and herbs used for diarrhea, both its advantages and side effects is of great importance.

- d. Incidence of diarrhea  
So far, at least in the Indonesian context, incidence of diarrhea is based from the cross-sectional studies. Figures resulted from the prospectives studies, such as through sample registration system, should be pursued.
  - e. The impact of intervention on morbidity and mortality.  
Operational research to examine the impact of various interventions (to caretakers and/or health service providers) are important. These research, which are regional or district specific and will have great communication/education components, will be very useful for the program managers and policy makers.
2. Respiratory Disease
- a. Risk Factors of Childhood Pneumonia  
The examination of the risk factors caretaker's of childhood pneumonia, including those of parental and / or caretaker's behavior, indoor pollution, and nutritional status, is very important. The result will give insights to program managers and policy makers to develop appropriate measures to prevent pneumonia.
  - b. Rational use of drugs for mild acute respiratory infections.  
Examination on the impact of various interventions both to the community and health service providers on the rational use of drugs for mild ARI should be continued, to find the most appropriate and most cost-effective intervention in various settings.
  - c. Identification and Treatment of Pneumonia cases by Community Workers (non medical workers)  
The examination of efficiency and effectiveness of the identification and treatment of pneumonia by the briefly trained community workers will be very important. The result will provide bases for the policy makers in developing less costly measures to decrease child mortality caused by pneumonia.

Second, issue on the importance of investments on diarrheal and respiratory disease research.

In this decade, the developing countries have to face the dual problems in health, i.e. problems arised because of demographic and epidemiologic transition and continued problems of infectious diseases. in this case, childhood diarrheal and respiratory infections will remain to be the major problems and still need a focused attention.

102

Due to this reason, a continued commitment on investments on research in diarrheal and respiratory diseases is very crucial in developing countries.

Third, translating research results into policy and implementation. One of the most important issue related to research activities is whether the result will be utilized by policy makers and program managers. In this regard, like the other research activities, with reference to Indonesia, ADDR sponsored research has only limited effect. Most research ideas are still originating from the researchers in academic institutions, and its dissimination and practical utilization is still limited.

In order to maximize the utilization of research result, new approach need to be tried out. A specific effort to encourage program manager and policy maker to reiterate their research ideas should be planned, and more meetings between policy makers, program managers and researchers should be carried out. Meetings should be geared toward talking about the current policy or programmatic issues and how these can be converted into research problems. Meetings should also be carried out to specifically discuss the research result and how these can be used for policy or program development. In order to be able to play this role, in a country like Indonesia, an isolated research in one area is seldom sufficient. It needs a multi center research so that the input will carry a national or at least regional leverage. To do so, a relatively strong institution who has good relationship with the Ministry of Health, equipped with sufficient resources is needed to initiate, sponsor and coordinate activities.

#### Fourth, Project's Coordinator

Center for Child Survival University of Indonesia has been designated as the coordinator of ADDR sponsored research activities in Indonesia. This mechanism has been useful in mobilizing the potential researchers from various institutions in the country to be involved in diarrheal disease research. For the first time, researchers from traditionally non health discipline have been involved in diarrheal disease research, especially those from Department of Psychology. However, in the future, this mechanism stil need to be improved. With the assistance from ADDR, Center for Child Survival, working together with the Ministry of Health can be also asked to play the role as proposal selection comittee so that the research topics will be matched with the country's problems. The mechanism should be developed so that more domestic consultants be involved in the activities.

103

Fifth, ADDR's role.

So far, ADDR has provided very significant assistance in developing the competencies of researcher in carrying out high quality research. More importantly, is ADDR's assistance in encouraging researcher to present the research result in an international academic events and submitting an article to an international scientific journal.

Given the research issues identified, and the pressing demand to transform the research result into policy and implementation, we thought that ADDR should enhance their role as catalyst for a more effective collaboration between research institution, policy makers, and program managers. This role can be carried out by providing assistance to local institution in writing policy option papers on various issues in diarrheal and respiratory diseases, and then stimulate the interaction between researchers, policy makers and program managers.

Thank you very much for your attention. Best regards.

Sincerely,



Anhari Achadi, M.D, Sc.D  
Research Coordinator CCS-UI  
for Dr. Alex Papilaya, DTPH

CC : Dr. Alex Papilaya  
Executive Director

HARVARD UNIVERSITY  
SCHOOL OF PUBLIC HEALTH

LINCOLN C. CHEN, M.D.  
Takemi Professor of  
International Health



665 Huntington Avenue,  
Boston, Massachusetts 02115  
(617) 432-0866

September 12, 1992

Caryn K. Miller  
Technical Officer  
Office of Health  
Bureau of Research and Development  
Room 1254, SA-18  
U.S. Agency for International Development  
320 Twenty-First Street, NW  
Washington D.C., 20523

Dear Dr. Miller,

This responds to your 3 September invitation to comment upon the ADDR projects. My sequential response follows the order of your specific questions: Research Questions. - Priorities for research may be approached from at least two perspectives, country-specific and global. In the first category, the issue may be more how and through what process are scientists in the affected countries prioritizing diarrheal disease research and what do they think would help most in addressing diarrheal diseases in their countries. A country based approach would be predicated on the assumption that differences exist with regard to the problem between countries, that local health systems and institutions differ, and that a critical dimension of research is how producers are linked to users at levels which count the most (within countries). Thus, the ADDR project should be seeking modalities for engaging country scientists through group (not simply individual) interactions to determine national priorities and to further its capacity building objectives.

Although national research priorities are of greatest importance, scientific advances internationally can reinforce and support national actions. Amongst others, international work can help network national scientists, ensure dissemination for cross-national learning, examine the prospects of technology transfer, and facilitate the translation of basic into applied advances. The ADDR project can also play a role in these regards, mostly through networking and information dissemination. Also,

105

partnership arrangements between US and developing country researchers or institutions can facilitate these processes.

Topically, I personally believe that ORT has been accorded sufficient attention. Under-studied areas include water and sanitation and domestic and environmental hygiene. We have little evidence that the incidence of diarrheal diseases has declined, which of course is the ultimate aim of control programs. Also, despite substantial research activities, it is not at all clear that the nutritional aspects of the diarrheal diseases have been impacted upon by diverse national efforts.

AID Support - Aside from malaria, no other field is as clearly identified as an American contribution to world health as the diarrheal diseases. The history of USAID investment in diarrheal disease research and the corresponding credit to the agency speak to the importance of sustained AID support. The addition of ARI is a welcomed development.

Research capacity strengthening should be the aim of all ADDR research projects, for over the longer-term such capacity is essential for solving the diarrheal and ARI problems. Such capacity, once developed, may also be applied to other problems. Indeed, one of the unique contributions of the ADDR project is its innovations in capacity building (for example research project design and analysis workshops) which should be applauded. This is especially the case in comparison to the WHO program which has had a comparative weak research and capacity strengthening component. ICDDRDB has focused excessively on Bangladesh, in my opinion.

ADDR Role - ADDR's role is certainly complementary to and reinforcing of the WHO and ICDDRDB efforts. Especially valuable have been ADDR's focus on the social and behavioral sciences, the investment in young investigators, and the innovative strategies for capacity building in project activities. Through trial and error, the ADDR has evolved a uniquely complementary, indeed critical, role for itself among the diverse research efforts addressing the diarrheal diseases and ARI.

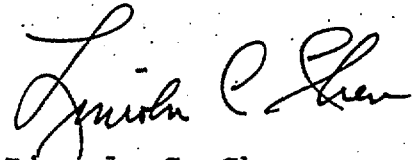
Enhance Impact - ADDR has already had significant impact and deserves continuing support for its strategy and work. Future impact may be enhanced through stronger dissemination of research findings, both nationally and internationally. Especially important would be formalizing dissemination on the project's learning of its capacity building strategies, which should be written up and disseminated through journals, books, and other media. Project documentation and reporting to USAID is insufficient dissemination.

Coordination and Collaboration - ADDR makes a strong effort to cooperate and collaborate with diverse institutions in the United States and abroad.

106

Thank you for this opportunity to comment on the ADDR.  
Although the ADDR is based at a Harvard institution, HIID, I have  
made every effort to provide an independent, constructive  
commentary about the project in the interest of our commonly  
shared objective of advancing world health.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Lincoln C. Chen".

Lincoln C. Chen

## Centre for Clinical Epidemiology and Biostatistics

The  
University  
of  
Newcastle



David Maddison Clinical Sciences Building,  
Royal Newcastle Hospital,  
Newcastle NSW 2300 Australia

Telephone: (049) 266142  
Fax: (049) 264307

Professor Richard F. Heller  
Professor of Community Medicine  
Director, C.C.E.B.

### FAX

TO: Dr Caryn K Miller, Office of Health, Bureau of Research &  
Development, USAID (phone (0015) 1 875-4682)

FROM: Dr Nick Higginbotham (fax 61 49 264307)

RE: Evaluation of ADDR

FAX NO.: (0015) 1 703 875-4686

Date: 27 October, 1992

No. of pages following: 2

Dear Dr. Miller,

Thank you for extending the time for us to reply to your questions about ADDR. As I stated earlier, our institution is active in the International Clinical Epidemiology Network, so we have had opportunities to work alongside ADDR in terms of some field activities as well as discussions at international meetings.

Here are a few thoughts in response to some of your questions:

1) Important diarrheal & respiratory disease research topics.

We have identified three areas that demand future work. First, what are the determinants of suboptimal prescribing practices in relation to acute and invasive diarrhea which are prevalent at different levels of the health system in developing countries. Once the determinants are identified, what are the most efficacious strategies for changing these suboptimal prescribing practices? This requires an interdisciplinary approach, involving estimates of suboptimal prescribing at different levels of the private and public sectors, and intensive qualitative (and survey) techniques to identify the individual and systems level factors responsible for such practices.

Second, it is vital to develop a research program for ARI concerning the behavior of home caretakers and health care providers such as that undertaken for diarrheal illnesses. Home caretakers (and often indigenous healers) are the first course of action for respiratory problems; their perceptions, understandings, and interpretations of symptoms, and the actions they deem correct must be studied and built into any proposed interventions.

Third, research studies have demonstrated effective ways of reducing childhood mortality due to diarrheal disease and pneumonia. The real difficulty is how to implement such control programs in high mortality areas such as sub-Saharan Africa. Research needs to concentrate on program implementation, taking a realistic and critical look at the rhetoric of child health programs such as CDD and ARI.

The progression from research studies to a government-sponsored program is a very difficult step in the developing world. We need more studies on how to facilitate this step. An important component is on-site supervision of health workers by visiting senior staff. This needs to be properly evaluated.

The WHO CDD program has concentrated on oral rehydration. However, in some parts of the developing world, persistent diarrhea leading to malnutrition is a major problem. Attention is, however, now focussing on persistent diarrhea. In addition, diarrhea prevention needs to be accorded higher priority, particularly the impact of improved water supply, sanitation and weaning foods on gut mucosal permeability. Non-invasive tests using breath hydrogen and lactulose-mannitol have made this technologically feasible.

The ARI Case Management program of WHO can lower pneumonia mortality by increased antibiotic usage at village and clinic level. But we do not believe that this approach is sustainable--although health workers clinical skills are an important priority. But the real priority is controlling H. influenzae and pneumococcal infections by new conjugate vaccines given in early infancy.

Centre for Clinical Epidemiology  
and Biostatistics

David Maddison Clinical Sciences Building,  
Royal Newcastle Hospital,  
Newcastle NSW 2300 Australia

Telephone: (049) 266142  
Fax: (049) 264307



THE  
University  
OF  
Newcastle

FAX

TO: Dr Caryn K. Miller, Office of Health, USAID  
FAX: 0015 1 703 875-4686  
FROM: Dr. Nick Higginbotham (fax 61 49 264307)  
RE: Review of ADDR Program  
DATE: 22 September, 1992

NO OF PAGES FOLLOWING 0

Dear Dr. Miller,

Thank you for your letter of September 3rd inviting my colleagues and myself to address a series of questions related to ADDR activities.

I have circulated your letter and the ADDR Annual Report to other members of the Centre for Clinical Epidemiology & Biostatistics. We are most happy to respond to the questions; as we have had much contact with ADDR through our involvement as a training center in the International Clinical Epidemiology Network.

However, given that your letter only arrived last week and the closing date is September 20, we wonder if we could have a few extra days to discuss the matter and formulate our reply. You might appreciate that our semester break has just started and faculty members have scattered to different parts of Australia and overseas. We'll be back together again October 1st and plan to reply at that time. Please let me know if this fits your schedule.

Again, thanks for the opportunity to have input into your review process. We look forward to corresponding with you.

Yours Sincerely,

Nick Higginbotham, PhD  
Senior Lecturer

*Response FAX'd*

London School of Hygiene and Tropical Medicine  
(University of London)



Keppel Street, London WC1E 7HT  
Tel: 071-636 8636 - Telex 8953474 - Fax: 071-436 4230

Department of Epidemiology and Population Sciences

Dr Caryn K Miller  
Technical Officer, Office of Health  
Bureau of Research and Development  
Room 1254, SA-18  
320 Twenty-first street, N.W.  
Washington DC 20523  
USA  
FAX: 0101 703 875 4686

17 September 1992

Dear Dr Miller

Thank you for your letter of 3/9/92. I am sending some comments on the ADDR Project which I hope will be of assistance to your reviewers. I have worked quite closely with all three components of the DRDRC Project (ADDR, WHO and ICDDR,B) and it is good to see the increased collaboration between them.

Clearly the three components are, to some extent, going to share the priority areas for research in diarrhoeal diseases and ARI, although the twice-yearly meetings should hold some of these areas cooperatively. Presumably until now these meetings have focused on diarrhoea since ARI is a new study area for ADDR and only a minor component for ICDDR,B. It is hoped that ARI will now feature more prominently on the agenda of these meetings.

One aspect of ADDR's approach which perhaps features more prominently than in the other two components, is its commitment to strengthening developing country institutions and researchers. I have been impressed with the level of support for this approach - allowing considerable flexibility to researchers to develop their ideas within the Project's general framework but providing training and advice where necessary to achieve good quality research while at the same time developing sustainable research skills. ADDR also actively strives for translating research results into policy and action. The close links that it fosters with relevant ministries and NGOs help ensure that ADDR tackles practical research that is actually wanted by such organisations. Support for ADDR to search for the most effective ways of disseminating results and influencing policy is important.

It is fair to say that throughout the research community, diarrhoeal diseases have received more attention than ARI, although this is being rectified in many institutions. Thus the current priorities in the two fields tend to differ although both fields need to tackle disease prevention and case management. For diarrhoeal diseases we have largely (though not totally) moved beyond the 'risk factor identification' stage and the challenges now are to identify feasible interventions and effective means of promoting and evaluating them. ADDR is actively supporting a

number of such activities in this area. The increasing importance of persistent diarrhoea and dysentery, particularly in diarrhoeal mortality, have been recognised by ADDR and it is supporting a number of important initiatives here. Dietary management, the rational use of drugs, use of home fluids and other aspects of case management are all key topics which also require further research and are being pursued by ADDR. Some preventive strategies such as breastfeeding, hygiene promotion and micronutrients (eg vitamin A supplementation) often overlap with other Programmes (eg within WHO) and collaboration between ADDR and such Programmes is essential on both sides.

With respect to ARI, there are a number of lessons to be gained from diarrhoeal disease research, particularly with respect to methodological approaches for the study of ARI. Basic data are still lacking in many places and there remain a number of thorny issues on the measurement side - the definition of an ARI episode is proving to be as or more difficult than that of diarrhoea. On the prevention side, this is clearly going to be a major area over the next few years. The Maternal and Child Epidemiology Unit at LSHTM is coordinating for WHO a comprehensive review of potential interventions for ARI. More than 20 interventions are being studied with respect to their effectiveness, feasibility and cost. The results of these reviews will be disseminated by WHO and it will be important for ADDR to be aware of developments here. Once identified, then the effective promotion and evaluation of such interventions will be a key area for ADDR to support. Some potential interventions lack sufficient data for evaluation of their effectiveness and ADDR can also usefully support studies which would fill these gaps in information. Case management at both the health facility and community level needs much attention.

ADDR has recognised the need for interdisciplinary research in tackling DD and ARI. It has been encouraging to see the different disciplines involved in a number of projects and this trend should be continued.

Collaboration with LSHTM is already underway, mainly via the Department of Epidemiology and Population Sciences, through the provision of technical assistance (such as Workshop facilitation) and meetings on technical issues. All our students are post-graduates, many from overseas including the countries in which ADDR has research activities. Where appropriate, we inform students about ADDR's activities and vice versa, enabling identification of potential research links. Our Department of Public Health and Policy also provides the opportunity for links in seeking effective means of translating results into policy and action.

Please contact me if you wish to discuss these comments or other issues further. My direct phone number is 071 927 2478, note that I am away 21st-25th September.

Yours sincerely

*Sharon Huttly*

Sharon Huttly  
Maternal and Child Epidemiology Unit  
Department of Epidemiology and Population Sciences



# HARVARD SCHOOL OF PUBLIC HEALTH

Department of Population and International Health

EDUCATION OFFICE  
PHONE: (617) 432-2253

September 21, 1992

OCT - 5 1992

Dr. Caryn K. Miller  
USAID  
Office of Health  
Bureau of Research and Development  
Room 1254, SA-18  
320 Twenty-First Street  
Washington, D.C. 20523

Dear Dr. Miller:

Thank you for your letter of September 3, requesting me to comment on USAID's program of research on diarrheal and acute respiratory diseases. As you probably know, Dr. Richard Cash who is deeply involved in the ADDR Project also has a joint appointment in this department and hence he is a close colleague of mine. I am responding to your questions which deal mainly with USAID policy and strategy in dealing with these problems but I felt that I should draw your attention to a potential conflict of interest.

1. Priorities for research on diarrheal and acute respiratory diseases:

Much work has been done in recent years on the epidemiology of diarrheal diseases; etiological agents and associated factors have been identified; therapeutic approaches with particular reference to oral rehydration have been tested and optimized; and some evaluative research has been carried out to assess the impact of specific programs. At this stage, it would be interesting to find out to what extent the positive demonstrations have been adopted and translated into policy and action at the national level, and to identify the constraints that limit such application.

With regard to acute respiratory infections, priority issues include further studies on the role of indoor pollution, overcrowding and other micro-environmental factors on morbidity and mortality. Some work had been done on designing simple diagnostic methods and indicators for decision making in the field, as well as treatment protocols that can be used effectively by non-physicians.

2. Are diarrheal disease and respiratory disease research important investments for AID funds?

These two symptom complexes represent major causes of disease, death and disability in many developing countries. Research would help in situation analysis, in developing preventive and curative interventions, and in designing programs for disease controls. Furthermore, support for research on these priority problems would

strengthen research capabilities in developing countries. As a member of the Commission on Health Research for Development, I participated in the two year study that led to the conclusion that "health research is an essential tool for equity in development." We strongly recommended that USAID and other development agencies should promote research and strengthen research capability.

3. Appropriateness of ADDR's current role:

From what I know of the ADDR project, through published reports and discussions with some of the grantees, the program has done an outstanding job in promoting research on diarrheal diseases. The strategy, which includes project development workshops, has been successful in increasing the quantity and raising the quality of research on diarrheal diseases. The multi-disciplinary approach of the program is to be commended.

4. Path for the future:

ADDR could expand its interest into policy research and analysis. After reading the scientific publications resulting from the program, one can legitimately ask - "and so what?" We now know some of the things that work in alleviating diarrheal diseases. What are the appropriate policies for applying this knowledge? I suggest the ADDR should consider:

(a) Supporting the compilation and critical analysis of relevant research findings and analyzing the policy options.

(b) Promote research on testing feasibility of expanding small scale studies into national programs.

(c) Stimulate more interdisciplinary research, involving scientists from various disciplines and public health practitioners who are responsible for program delivery.

5. Institutional involvement:

As mentioned earlier, Dr. Richard Cash is a member of this department and he has the full support of his colleagues in the implementation of the ADDR project.

I hope that these comments have been useful.

Yours sincerely,



Adetokunbo O. Lucas  
Professor of International Health



آغا خان یونیورسٹی

THE AGA KHAN UNIVERSITY

Faculty of Health Sciences  
Medical College

Fax No: (703) 875-4682<sup>6</sup>

September 28, 1992

Ms. Caryn K. Miller  
Technical Officer  
Office of Health  
Bureau of Research and  
Development  
Room 1254, SA-18  
320 21st - NW  
Washington DC 20523.

Dear Ms. Miller,

Thank you for your fax dated September 9, 1992 requesting a response to the accomplishments and future work of Applied Diarrheal Disease Research Project (ADDR) in Pakistan.

The Department of Community Health Sciences of the Aga Khan University has been awarded two ADDR grants to date. The current grant is for study on behavioral aspects of ARI whereas the previous one dealt with maternal perceptions of diarrhea. Additionally, some of our faculty members are involved as co-investigators in ADDR supported research projects of other departments of the University.

With respect to your specific questions, I will respond to them under the following headings.

#### Issues of Relevance to Country Programmes

The study of behavioral aspects of diarrheal and respiratory disease are of great significance for the success of projects for child survival and child health. We feel that an understanding of maternal perception of illness and health care seeking behavior as well as a study of the response of private health care sector is the corner-stone of developing appropriate health education strategies.

#### Importance of Research on Diarrheal and Respiratory Disease

Despite substantial gains in child survival, both diarrhea and ARI continue to be the major childhood killers. There is a serious need to strengthen research capacity to allow for a more scientific situation analysis leading to development of more effective child survival projects. In this context the work of ADDR does fit into the overall mandate of A.I.D as a development agency.

Contd.:2

115



Page-2

### Building Local Research Capacity

ADDR has made significant positive contributions to the development of local research capacity. However, there is much more ground that needs to be covered. Currently there are no fora or networks at the local and national level that provide a platform for ADDR grantees to contribute as effective resource persons for dissemination of research skills. ADDR should endeavour to support the development of such linkages to ensure greater interaction amongst researchers and dispersion of research skills to encourage and promote junior researchers.

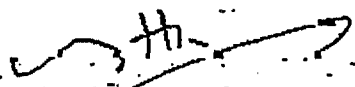
ADDR's support in promoting research at Aga Khan University has added to the credibility of the University in the scientific community. We look forward to continued interaction, and would be willing to assist in strengthening research capacity at the local level.

### Application of Research Findings

The applied nature of research projects supported by ADDR do not automatically translate into policy directives and changes in implementation strategy. Given the complicated state machinery, there is a great need to devise mechanisms to allow for greater interaction amongst the health planners and the implementors. Such mechanisms are now under development between the Ministry of Planning and Development and the Ministry of Health with our University as a participant. ADDR support for greater and wider dissemination of research findings at various fora has a good chance of facilitating this interaction.

I hope you find the above comments useful for your review.

Yours sincerely,

  
Dr. Muntaz Husain  
Acting Chairman  
Dept. of Community Health Sciences



United Nations Children's Fund  
Fonds des Nations Unies pour l'enfance  
Fondo de las Naciones Unidas para la Infancia

## FAX COVER SHEET

<b>DRAFTER</b> M.H. GOTINK	<b>DIVISION/SECTION</b>	<b>TELEPHONE</b>	<b>DATE</b> 21-10-92
-------------------------------	-------------------------	------------------	-------------------------

<b>TO (ADDRESSEE):</b>  CARYN K. MILLER, Ph.D TECHNICAL OFFICER OFFICE OF HEALTH BUREAU OF RESEARCH & DEV	<b>CITY/COUNTRY</b>  WASHINGTON DC/USA  <b>FAX NUMBER (DESTINATION)</b>  703 875 -1686
---	--

PAGE 1 OF 1 PAGES

REF GHA/92-235

We have very much appreciated the opportunity to discuss ADDR related issues for project implementation in Ghana. Please find below a summary of the discussion, in relation to the posed questionnaire:

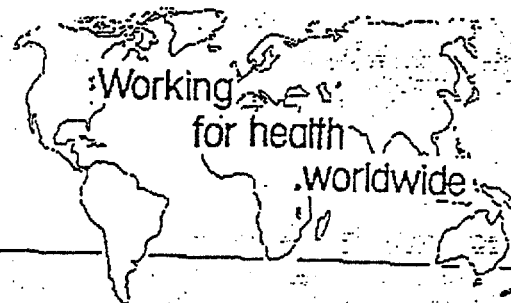
1. CDD/ARI: On ARI, not much data is available: for programme development, it is imperative to focus on incidence, adoption of proper diagnostic and treatment programmes and anthropological studies to assess the local perceptions of ARI and Diarrhoeal syndromes. In CDD, more has been documented; translation to programme formulation and implementation, however is an area, which needs much more attention.
- 2-5. ADDR has managed to solicit a reasonable number of proposals and has already contributed significantly to capacity building. In collaboration with the Health Research Unit and other institutions. The potential benefit for regional programme development and implementation, within an increasingly decentralized environment is obvious. The projects emphasis on translation of research results to policy and implementation is crucial and warrants separate studies. In this way, it could provide and institute mechanisms, which may lead beyond CDD/ARI into other areas, such as FP, EPI, HIV/STD.

Best regards.

C.L.O.  
F.Y. Menkir  
Officer in Charge

# AHRTAG

Appropriate Health Resources and Technologies Action Group Ltd



1 London Bridge Street, London SE1 9SG, UK.

Tel: (International) +44 71 378 1403 (Inland) 071 378 1403

Fax: (International) +44 71 403 6003 (Inland) 071 403 6003

## FAX

To: Dr Caryn Millar

Fax no: 010-1-703-875-4686

From: Kate O'Malley, AHRTAG

Date: 18/9/92

This is page one of 3 pages

Dear Caryn Millar,

Thank you for your letter of 3 September giving AHRTAG the opportunity to contribute to the assessment of ADDR. Kathy Attawell is away in Asia, but she has seen the letter and made some comments which I am passing on now. I also contacted our advisors to ARI News and Dialogue on Diarrhoea and asked them for feedback, so this letter is based also on their comments.

I will note down a number of different comments without trying to put them into an integrated or prioritised whole, since they address different aspects of the questions.

### Research needs

- There is a need for socio-cultural research on factors which limit use of ORT. We know that it works but we don't know why some people who know about ORT don't use it. What can be done to facilitate its usage?
- There is a need for epidemiological research into the population groups affected by ARI and diarrhoea. What overlap is there? Before we consider merging ARI and CDD activities we need to be clear about the target groups.
- Training and communication deserve emphasis. New approaches need to be devised for community education/ prevention/ treatment of diarrhoea and ARI.
- Attention should be given to prevention issues eg. the socio-economic impact - the cost of prevention vs the cost of treatment

118

- The three priorities for clinicians are:
  - o Causes and management of diarrhoea in people with AIDS
  - o Nutritional support during diarrhoeal and respiratory infections
  - o New approaches to the treatment of dysentery in light of approaches resistance
- On priorities for ARI research specifically:

An article in the Lancet (Meta-analysis of intervention trials on case management of pneumonia in community settings by Prof R Black, Lancet 340: 528-533) highlights priorities in ARI research. This article confirms that in controlled settings standard case management for ARI can reduce infant mortality rates by 20 % and under five mortality by 25%. The effect of case management is not reliant on co-interventions such as measles immunisation. This effect is as great as those documented for other child survival interventions. Prof Black states that: "Priority should now be given to assessment of the most efficient ways to implement this strategy and to integrate this with other interventions to control childhood mortality". The relative inattention and few resources given to ARI compared to other child survival interventions can no longer be justified.

While research issues related to case management guidelines in ARI are more appropriately dealt with by WHO, there is a great need for operational research to identify ways of translating the policies of WHO into actual reality. This research should focus on solving national or local problems and should be driven by the needs identified by ARI programme managers or those implementing the programme at district levels. It should look at ways of bringing together research and programme inputs to monitor and evaluate programmes.

#### The value of research

- If ADDR has valid research result it can help shape USAID policy. AID is then able to take a lead internationally. If AID had to wait for other people's research it would have to play a reactive, rather than proactive, role.

#### Increasing the impact

- ADDR should widen the scope of its outreach by publishing simple research papers for those working in the field and disseminate its literature to a wider range of research organisations, health programmes and policy makers. ADDR could convene in-country meetings to facilitate local programme planning and implementation.
- Greater attention could be paid to identifying national research and training institutions for collaborative work.

### Collaboration with AHRTAG

- Clearly, research results need a vehicle for dissemination so that others might learn from that particular experience. International newsletters such as ARI News and Dialogue on Diarrhoea could play a greater role by including a column for research updates and having more regular research supplements. The audience for the results of the research needs to be much broader than academia. AHRTAG's, and its project partners', strength is in communicating information in an accessible way.

I hope these comments are useful. Sorry I didn't have time to draw together the disparate comments into a more unified whole.

Yours, with best wishes,

*Kate O'Malley*

Kate O'Malley  
Executive editor, *Dialogue on Diarrhoea* / ARI news

# INTERNATIONAL FORUM FOR SOCIAL SCIENCES IN HEALTH

SECRETARIAT : MAHIDOL UNIVERSITY, FACULTY OF SOCIAL SCIENCES AND HUMANITIES,



SALAYA, NAKORNPATHOM 73170, THAILAND.

TEL. (662) 4419180, (662) 4419182 EXT. 36

FAX. (662) 4419738, (662) 4419333

12 October 1992

## STEERING COMMITTEE :

Roberto Briceno-Leon  
Venezuela

Lilia Duran Genzaes  
Mexico

Mary-Jo Good  
U.S.A.

Ellen Hardy  
Argentina

Nick Higginbotham  
Australia

Peter Kunstadter  
U.S.A.

Loki Madan  
India

Paul Nkwil  
Cameroon

Yvo Nuyens  
Europe

Santhat Sermsri  
Thailand

Joseph Wang'ombe  
Kenya

Dennis Willms  
Canada

Dr. Caryn K. Miller  
Technical Officer  
Office of Health  
Bureau of Research and Development  
Room 1254, SA-18  
USAID  
320 Twenty-First Street, N.W.,  
Washington, D.C. 20523  
U.S.A.

Dear Dr. Miller :

Thank you for your letter of September 9, 1992, requesting my comments concerning ADDR's role in diarrheal and respiratory disease research in Thailand.

First I would like to correct my address and role in the matter regarded. I am now the Secretary of the International Forum for Social Sciences in Health. I was a dean of the Faculty of Social Sciences and Humanities, Mahidol University during April 1988 - April 1992. My experience have been in a field of Sociology and Health and Primary Health Care. Diarrheal and respiratory disease research is not my firsthand skills I have however followed closely an inter-disciplinary research collaboration in health issues. In order to save time, I have enclosed my paper on Collaboration in Research for PHC in Thailand. This paper was presented at the University of Queenslad, Australia, during 6-8 September 1988.

With respect to your inquiries, I would say that diarrheal and respiratory disease research in Thailand, particularly in the focus of inter-disciplinary approach is still very important investments for AID's fund. It is important because a success of control program in health is concerned with a matter of implementation. A research team approach including researchers and health workers should easily transfer research into practice.

I am sorry to give you this messege late due to my extensive travel.

With regards.

Sincerely,

Santhat Sermsri, Ph.D.  
Secretary

Encl : as noted

## COLLABORATION IN RESEARCH FOR PRIMARY HEALTH CARE IN THAILAND

by

Santhat Sermsri<sup>1</sup>  
Dean and Associate Professor  
Faculty of Social Sciences & Humanities  
Mahidol University  
Bangkok, Thailand

Inter-disciplinary collaboration in research for primary health care in Thailand has been well recognized to be highly important for the development of health system since 1977. Before 1977, health care services provided by the government were under utilized and barriers to access health services, especially for most living in rural areas, were identified to be generally related to lack of community participation and sectoral collaboration. The concept of inter-sectoral collaboration among involved parties became accepted after it was recognized that an important barrier to access the services was the dominance of the medical profession. Equally important, the recognition of the role of village (health) volunteers has proved to be necessary for bridging the so-called social barrier of health care services; this offers a significant step in the development of the health system of the country. From this, together with the global goal of health for all, an approach of primary health care has been fully accepted by the government and actually designated as a key strategy, leading to extensive development of health of the country, obtaining more involvement of community and increased collaboration of sectors concerned. Only a few years later, public statistics showed an increase in health accessibility and acceptability for people (Sermsri, 1988).

---

<sup>1</sup> A former assistant director of Research Division, ASEAN Training Center for Primary Health Care Development, Mahidol University, Bangkok, Thailand)

122

Utilization of government health services has been on the increase and modern health care facilities are becoming popular. People are also more independent for their individual health care. It is well mentioned that the achievement of health accessibility and acceptability are eventually due to a firm determination of government efforts through primary health care approach, namely sectoral collaboration and people involvement.

In realising the importance of people involvement and inter-sectoral collaboration, a multi-disciplinary approach became publicly utilized. A team of health researchers, for example, used to include only by either health or social scientists, but not both. Now, the importance of including both health scientists and social scientists in one team is widely practiced. Subjects in the field of social sciences were then established in the schools of medicine and work of health services, allowing an understanding of non-health related factors and enlarging inter-sectoral collaboration more practically.

Within the umbrella of Mahidol University, formerly named Medical Science University before 1969, the ASEAN Training Center for Primary Health Care Development (ATC/PHC) can be considered as an institute employing inter-sectoral collaboration through multi-disciplinary approach and primary health care strategies. Research projects under the auspices of the ATC/PHC were administered by a team of researchers representing several disciplines. Subjects of the research projects include issues which could enhance the inter-sectoral collaboration and community participation. They are, for example, village health volunteers, community funds, village and community preparation as well as rural social development. Modern health service system now is in an out-reach role, instead of providing the services at its own site, approaching community and people as well as collaborating other sectors concerned. To ensure the continued development of the national health system, the Sixth Five-Year Plan of National Development (1988-1991) has stated clearly the goal of strengthening inter and intra-sectoral collaboration and disciplines among concerned parties including private

and public sectors in health service delivery, training and research.

Taking the ASEAN Training Center for Primary Health Care Development as a case in point, we can elaborate how the mechanism and procedure of inter-sectoral collaboration and multi-disciplinary team work is operating. The government of Thailand has established the ASEAN Training Centre for Primary Health Care Development (ATC/PHC), with financial and technical assistance from the government of Japan in 1982. The assistance was made in accordance with a project for Human Resource Development agreed among ASEAN member nations. As the importance of Primary health care made by the world community in 1977, the ATC/PHC will be the ASEAN focal point for technical collaboration among developing nations in the area of primary health care. The objective of the ATC/PHC for research, among training and workshop tasks, is to promote the development of the research capabilities of field health professionals. With its own expertise, joint work between Ministry of Public Health as a field experience, and Mahidol University as a technical agency, has led to the development of research goals, procedures and actions in the field of primary health care research.

Figure 1 illustrates the structural collaboration between Ministry of Public Health (MOPH) and Mahidol University, specifically through a research committee where research policies are held and formed. Administration of the ATC/PHC Center is practically run by Mahidol University where technical expertise and health concepts are predominant. Intra-collaboration of the university side is made through a university administration board which provides administratives and technical personnel, including a work team of health and social science disciplinary experts.

The remarkable inter-collaboration between ministry and university appeared in a form of the research committed made up of experts from various disciplines and sectors, allowing expansion of the research activities to local health providers, ensuring greater application of research outcomes and guaranteeing the quality of research results. It

124

may well be stated that this research committee becomes a pivotal collaboration of the major sectors concerned in primary health care research. Practically, the secretary of the committee who is directing the operational works of collaboration, plays an important role in coordinating functions in line with the health research policies agreed upon by the committee and in accordance to health needs of the country as stated by the ministries. The main functions of secretary include (1) to carry on research policy, (2) to develop research capability, (3) to create research teamwork and (4) to support the application of research outcomes.

### 1. Research Policy

With the importance of primary health care for national health development, the direction of the research policy, as outlined by the research committee (See Appendix), is aimed at promoting various aspects of primary health care research areas. They include food and nutrition, environmental sanitation, health education, mother and child health, family planning, immunization, disease control, curative services and essential drugs. According to the conclusion of the research committee, each year research projects from these nine major primary health care component areas to be supported should meet three principal criteria including collaborative study, inter-disciplinary team and action-oriented research. Action-oriented projects which focus on community organization and behavioral aspects of primary health care development are also supported. Ministry of Public Health field personnel are preferably potential research investigators. The current policy for 1987-1992 aims at developing various approaches for implementing the conventional strategies and establishing a linkage between elements concerned in primary health care work. A model for primary health care development is also important for demonstrating a total integrated primary health care approach at a community level. During the first five-year operation of the research activities (1982-89), two hundred fifty-nine research proposals were submitted for consideration and only twenty were actually granted every year. The

125

approximate amount of fund for each research project is around 70,000 baht (\$US2800).

## 2. Research Training Capability

It is the goal of the ATC/PHC Center that both financial and technical support to researchers are made in order to enable the field health personnel to obtain and identify empirical problems for the development of the current operation. However, most of the health personnel have not been trained to collaborate with a team and research methods. Training course for research methodology should provide scientific research and also develop strategies for improving their regular health services, and strengthen collaboration of concerned sectors. The content of the training includes an identification of research problems, construction of hypotheses, research design, field data collection, analysis and report writing. In addition, a careful review of the research proposals submitted is made. This helps assure the research projects approved by the committee will produce reliable results and have feasible application.

## 3. Research Team Work

As a main goal of the ATC/PHC Center, research proposals from local (field) health personnel are particularly favourable with a view to identify techniques of action-oriented research to the extent that health personnel at the local (provincial) levels are able to conduct necessary field research in support of primary health care programs. Hence, both personnel from Ministry of Public Health and Mahidol University are potential investigators and a research team involving both is urgently encouraged. A research project which has a strong capability in medicine or health orientation, for example, will be suggested to recruit a member in a social science discipline. In other words, research investigators are composed of inter-disciplinary and inter-sectoral collaboration, as expected, leading to more constructive application of the research results.

126

Approval of the projects is also made in promoting more advanced research projects generated by university staff particularly those who are involved in community medicine and social sciences in order to promote academic awareness and commitment toward primary health care development as well as more scientific sound researches.

#### 4. Application of Research Outcomes

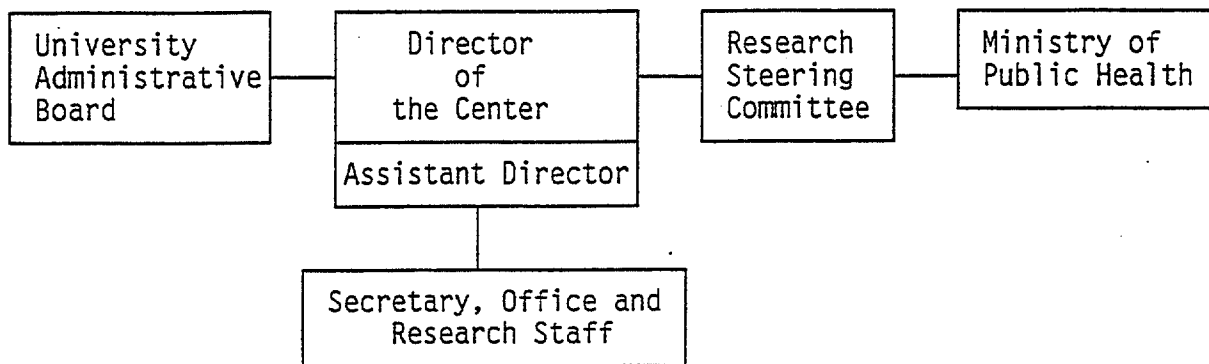
Ways for developing the application of the research results are made at the end of research projects. They include (a) a meeting between the members of the Research Committee, experts in health and social sciences as well as health policy planners, (b) a review for publishing excellent reports in the Journal of Primary Health Care under the auspices of the ATC/PHC Center and (c) a symposium for primary health care researches. The outcomes of the researches will therefore provide recommendation for both the government agencies concerned and private sectors involved. This approach affects changes in administrative processes and strategies. It also provides a review of the health roles in the provision of public services and recommends changes in the regulations in turn affecting the immediate objectives of social development operation.

The results of action-oriented research mostly done by field personnel have been utilized in developing appropriate primary health care models and actually employed in field training of local health personnel or overseas fellows of the ASEAN member countries. The strength of these collaborations has ensured that the outcomes of research in primary health care are implemented and has contributed to the success of primary health care development in Thailand and the relief of human suffering can eventually be best achieved by the continued enhancement of the inter-disciplinary knowledge for concerned personnel through strengthening the collaboration of research activities.

127

Figure 1:

Organization Chart of the ASEAN Training Center of Primary Health Care  
Development in Research Activities



Appendix

## A) TARGET RESEARCH AREAS 1982-1986

1. Health education
2. Food and nutrition
3. Environmental sanitation
4. Maternal and child health and family planning (MCH and FP)
5. Expanded immunization
6. Control of locally endemic diseases
7. Treatment of minor ailments and simple wounds.
8. Essential drugs
9. Policy and managerial research in PHC

## B) TARGET RESEARCH AREAS 1987-88

With the current stage of health and primary health care activities in Thailand, a direction supporting research projects established aims at a link between primary health care and rural developments including:

1. Community Financing
2. Food Sanitation
3. Inter-Sectoral Cooperation
4. Traditional Medicine
5. Health Information System

Further Readings:

1. ASEAN Training Center for Primary Health Care Development, 1987  
PROGRESS REPORT OF RESEARCH DIVISION, Bangkok, : Mahidol University.
2. Sermsri, Santhat. 1988. "Utilization of Traditional and Modern Health Care Services in Thailand," in Stella R. Quah (ed) TRADITION AND MODERN IN HEALTH CARE UTILIZATION IN THE EIGHTIES; A COMPARATIVE STUDY OF SELECTED COUNTRIES. California: The University of California Press

1st October 1992

Dear Dr. Miller,

Thank you for your letter dated 9 September, requesting me to review the document titled "Annual Report 1991 of the Applied Diarrheal Disease Research Project", and the accomplishments. I apologize for the delay - I have been out on official travel.

I would like to compliment the group for choosing excellent research priorities, and for supporting research within countries to develop national capacity. I was impressed by the selection of areas of research, that feed directly into policy and programme formulation. When compared with several other areas of public health programming, particularly in the context of maternal and child health, the research on diarrheal diseases has been of direct relevance to national governments for programming. The study of various treatment algorithms for case management, for example, is particularly useful. This needs to be continued.

The CDD programme is based on adequate knowledge and science for nationwide application in countries, though continuous review and study is needed for mid-course correction and improved programmes. This is one of the few programmes related to child survival (other than immunization), where considerable efforts have been made by governments and international agencies in the last decade. The programme is now poised to take off for universal application, to make the benefits of science and technology available to all families and children. I have a few suggestions that may facilitate nationwide application of research, the generation of operations research for large scale programming. This will help achieve the goals that international bodies and national governments have agreed upon for reduction of mortality (and perhaps morbidity) due to diarrhea.

Some issues and areas are listed on the next page:

.../..

Dr. Caryn K. Miller, Ph.D.  
Technical Officer  
Office of Health  
Bureau of Research and Development  
Room 1254, SA-18  
USAID  
320 Twenty-First Street  
N.W. Washington, D.C. 2053

- The access to services is important, if all have to benefit from available technology. Operations research projects could be taken up for implementation of available knowledge at scale - in large cities, districts of 2 million population. The existing model for national capacity development, described on page iii as a five step process, could be expanded. This expansion could be in terms of adding steps for implementation and analysis of the implementation process. In this connection, Gani and colleagues (reference page 16) have taken the initiative to study ways of implementation. Similar initiatives are needed in other areas. Most of the research studies related to programme operations are descriptive, and need to be expanded to include alternative strategies for achieving specific outcomes.

- Systems development, as was supported for the immunization programme is needed if CDD is to become a nationwide initiative, providing universal access of people and homes to the lost cost technology. Therefore, more attention may be needed for logistics, product development, monitoring and quality of care.

- With reference to quality of care, studies could be undertaken to develop practical indicators for improved management at the level of health institutions and district health systems.

- Essential health research is to be a new philosophic framework that is being promoted globally, which encompasses some - but not all - of the principles that are implicitly articulated in this programme. The research network needs to be expanded beyond a few selected institutions/hospital based centers to include those who implement services, so that a spirit of inquiry is built in to the health services system.

- The studies on care by health providers are focused on caretakers and mothers, assuming that mothers and caretakers operate at home without support of other family members. There is some evidence that family level decision making is a critical issue in generating confidence of mothers and caretakers for continuing with ORT, and seeking care when needed. This dimension is very important for care at home. Studies in several countries (Morocco, Egypt) show that ORT use rate are much lower than the knowledge of mothers. Therefore, the mothers or caretakers needs to have confidence in this technology so that it is used. Operations research that results in behavior change, which has the explicit objectives of measuring behavior change (e.g. increased ORT use with continued feeding) need to be conducted.

I hope these suggestions are helpful.

With regards,

Sincerely,

*Monica Sharma*

Dr. Monica Sharma  
Senior Adviser, CDD/ARI  
CHILD SURVIVAL UNIT

- Dr. Noel Solomons, CESSIAM

1. Given the need to focus our resources on issues of greatest relevance to country programs, what are the most important diarrheal and respiratory disease research questions to be addressed over the next five years? How will these issues contribute to implementation of child health projects in developing countries.

THE MOST IMPORTANT DIARRHEAL AND RESPIRATORY DISEASE RESEARCH QUESTIONS OVER THE NEXT FIVE YEARS WILL DEPEND ON THE CIRCUMSTANCES OF A GIVEN COUNTRY, AND ON THE AMOUNT OF RELEVANT KNOWLEDGE THAT IS ALREADY EXTANT. IN AN OVERALL FRAMEWORK, ISSUES OF ETIOLOGY, OF DETERMINATION OF VIRULENCE, OF CONSEQUENCES OF INFECTION, AND OF STRATEGIES OF PREVENTION ARE THE MOST SUBSTANTIAL. THE EVOLUTION OF THE ADDR TO DATE HAS SEEN A TRANSITION FROM A CONCERN FOR SECRETORY/DEHYDRATING DISEASES TO INVASIVE DIARRHEAS AND PERSISTENT DIARRHEAS. I THINK THIS IS REASONABLE. I ALSO SUPPORT THE BALANCE BETWEEN EMPHASES ON COMMUNITY-BASED AND FACILITY-BASED MANAGEMENT. FOR INSTANCE, IN THE TWO PROJECTS THAT CESSIAM HAS CONDUCTED (PROJECTS 086 and 099) WE HAVE ONE OF EACH TYPE.

AS INFECTIONS, DIARRHEAL AND RESPIRATORY DISEASES AFFECT MORTALITY, CO-MORBIDITY AND GROWTH ADDITIONAL DOCUMENTATION OF THE IMPACTS OF (CONSEQUENCES OF INFECTION) ARE NEEDED, IF ONLY TO PROVIDE DECISION-MAKERS WITH A NOTION OF THE MAGNITUDE OF THE EFFECTS AS A PERSPECTIVE ON ALLOCATED RESOURCES.

IN TERMS OF CHILD HEALTH, TO THE EXTENT THAT THE DATA ON PREVENTION STRATEGIES AND COMMUNITY-LEVEL MANAGEMENT PROCEDURES SUGGEST EFFICIENCY AND EFFICACY FROM THE DATA, THE IMPLEMENTATION OF THE MEASURES IN A PUBLIC HEALTH SETTING SHOULD CONTRIBUTE TO A REDUCTION IN MORBIDITY AND IN THE NUTRITIONAL AND OTHER CONSEQUENCES. THE RESOURCES AND INFRASTRUCTURE OF THE GOVERNMENTAL SYSTEMS OF PRIMARY CARE DELIVERY ARE IMPORTANT CO-DETERMINANTS OF ULTIMATE IMPACT. THE ISSUE WITH THE FACILITY-BASED INNOVATIONS IS SIMILAR, AND USAGE AND REFERRAL PATTERNS WILL DETERMINE WHO HAS ACCESS TO ANY PRACTICAL ADVANCES DERIVED FROM ADDR-SPONSORED RESEARCH.

ALTHOUGH THERE ARE OTHER W.H.O. AND OTHER A.I.D.-FUNDED PROGRAMS ON HIV, IT IS IMPORTANT TO RECOGNIZE THAT BOTH THE GI TRACT AND THE RESPIRATORY TRACT ARE TARGETS OF THE HIV VIRUS AND OF THE OPPORTUNISTIC PATHOGENS THAT CHARACTERIZE AIDS. THIS IS AN EVOLVING SITUATION IN THE ASIAN AND LATIN AMERICAN COUNTRIES AMONG THE ELIGIBLE NATIONS, AND MERITS SOME CONSIDERATION IN TERMS OF RESPIRATORY AND DIARRHEAL RESEARCH.

IN TERMS OF DIARRHEAL DISEASE AND RESPIRATORY DISEASE, CHILDREN ARE NOT THE ONLY SEGMENT OF THE POPULATION WHO ARE VULNERABLE TO THESE INFECTIONS, NOT NECESSARILY IN A LIFE-THREATENING A WAY, BUT IN WAYS THAT INCREASE MORBIDITY AND REDUCE PRODUCTIVITY. IF THE MANDATE COULD BE BROADENED, ADULTS AND THE ELDERLY SHOULD BE LEGITIMIZED AS SUBJECTS FOR STUDY OVER THE NEXT FIVE YEARS.

FINALLY, INTESTINAL HELMINTHS AND PROTOZOA CAUSE INTESTINAL INFECTION. ONLY GIARDIA LAMBLIA AND ENTAMOEB A HISTOLYTICA ARE PROMINENT IN CAUSING "DIARRHEA" PER SE. HOWEVER, THEY DO INFLUENCE INTESTINAL HEALTH. THE DEGREE TO WHICH THESE PATHOGENS CONTRIBUTE TO IMPAIRED NUTRITION AND TO ILL HEALTH IS NOT QUANTIFIED, NOR IS THE GAIN IN GROWTH, MICRONUTRIENT STATUS AND HEALTH BY THE SUPPRESSION OF THESE INFECTIONS BEEN ASSESSED IN QUANTITATIVE TERMS IN DISTINCT ECOSYSTEMS. IT MIGHT BE WORTH THE WHILE OF ADDR TO CONSIDER THIS TOPIC.

2. Are diarrheal disease and respiratory disease research important investments for A.I.D. funds over the next 10 years? Please explain. What is A.I.D.'s comparative advantage in diarrheal and respiratory disease research now and over the next 10 years? Does research capacity strengthening contribute in A.I.D.'s overall mandate as a development agency?

THE BASIC RATIONALE FOR INVESTMENT OF THE U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT IS TO FOSTER ECONOMIC AND SOCIAL DEVELOPMENT OF LESS ADVANCED COUNTRIES. IT WOULD SEEM OBVIOUS THAT SURVIVAL OF CHILDREN TO ADULthood IS A WAY TO ASSURE HUMAN CAPITAL FOR DEVELOPMENT. MAKING SURE THAT THEY ARE HEALTHY AND HAVE APPROXIMATED THEIR GENETIC POTENTIAL FOR PHYSICAL AND COGNITIVE DEVELOPMENT IS A WAY TO MAXIMIZE THE QUALITY OF THE HUMAN CAPITAL. AS THE TWO MOST WIDESPREAD INFECTIOUS DISEASES, BY CONCENTRATING ON DIARRHEAL AND RESPIRATORY DISEASES, ONE IS FOCUSING ON A MAJOR DIFFERENTIAL FOR SURVIVAL. THE TRUE IMPACT OF DEVELOPMENTAL AND NUTRITIONAL DISADVANTAGE CONVEYED BY SURVIVING -- AND THE MAGNITUDE OF THE ANTICIPATED PRODUCTIVITY GAIN BY PREVENTION OF NUMBER AND SEVERITY OF EPISODES -- IS STILL A MATTER OF CONJECTURE AND RESEARCH.

AT LEAST IN THE COUNTRIES OF RELEVANCE TO ADDR PROJECT, A.I.D. HAS A SELECTIVE ADVANTAGE OF MOBILIZING CURRENCY WITHIN COUNTRY. PERHAPS MORE ADVANTAGE SHOULD BE TAKEN OF THAT MECHANISM. AT LEAST IN GUATEMALA, THE A.I.D. MISSION HAS AN OFFICE OF HUMAN RESOURCE DEVELOPMENT WITH A STAFF SOPHISTICATED IN HEALTH. DESPITE THE GENERAL REDUCTION IN HEALTH INVESTMENT IN THE LATIN AMERICAN REGION BY A.I.D. IN THE 1990s, WE CAN STILL COUNT ON THE INTEREST AND SUPPORT OF FUNCTIONARIES IN THE MISSION. HOWEVER, AS PRESENTLY UNDERTAKEN, THE ADDR-SPONSORED CENTERS ARE LESS DEPENDENT UPON -- OR ACCOUNTABLE TO -- THE LOCAL MISSION INTERESTS AS THEY ARE TO THE HIID/CAMBRIDGE OFFICES.

IN MY OPINION, DEVELOPING THE CAPACITY OF A COUNTRIES' RESEARCHERS AND RESEARCH FACILITIES IS ALSO DEVELOPMENT. IT IS A VERY IMPORTANT FORM OF DEVELOPMENT OF PRODUCTIVITY AND CONTRIBUTES BOTH TO THE INDEPENDENCE OF A NATION (FREEDOM FROM DEPENDENCE ON RESEARCH FINDINGS FROM OTHER SITES) BUT ALSO CONTRIBUTES TO THE THE INTEGRATION OF THE NATION INTO A WORLD-WIDE NETWORK OF ADVANCING TECHNOLOGY AND CONCEPTUAL SOPHISTICATION. TO THE EXTENT THAT THE EQUIPMENT AND INFRASTRUCTURE CAN

BE USED FOR OTHER AREAS OF HUMAN BIOLOGY RESEARCH AND TEACHING, THE INVESTMENT HAS A "MULTIPLIER EFFECT." AT LEAST FOR CESSIAM IN GUATEMALA, I CAN CITE SEVERAL ASPECTS OF THIS SPIN-OFF AND POTENTIAL FOR SPIN-OFF FROM THE INVESTMENT MADE IN THE TWO PROJECTS TO DATE.

3. Is ADDR'S current role an appropriate one given the research issues identified and their contributions to diarrheal disease research thus far? Has the project contributed to solving issues in diarrheal disease relevant to your country's needs? How would you assess the research capacity building aspect of this project in your country? Could ADDR be doing more to assure/measure sustainability of the process - if so, what?

WITH RESPECT TO THE RESEARCH ISSUES IDENTIFIED TO DATE BY ADDR AND THEIR APPROPRIATENESS, THE RESPONSE TO THIS IS TOTALLY EMBODIED IN THE REPLY TO QUESTION #1. SOME SUGGESTIONS FOR: 1) EXTENDING THE AGE-SPECTRUM OF INTEREST; AND 2) INCLUDING AN OPTION FOR RESEARCH ON INTESTINAL PARASITOSIS WERE MADE.

IN TERMS OF ADDR-SPONSORED RESEARCH'S CONTRIBUTING TO SOLVING DIARRHEAL ISSUES RELEVANT TO GUATEMALA'S NEEDS, IN THE SHORT PERIOD OF TIME (TWO YEARS) DURING WHICH THE REPUBLIC OF GUATEMALA HAS BEEN AN ELIGIBLE COUNTRY UNDER THE PROJECT, IT IS NOT REASONABLE TO EXPECT MAJOR CONTRIBUTIONS.

ON THE OTHER HAND, THERE HAS BEEN NO QUESTION OF THE PROFESSIONAL DEVELOPMENT AND CAPACITY-BUILDING IMPACT AND EFFECT ON THE STAFF AND STUDENTS OF THE CENTER FOR STUDIES OF SENSORY IMPAIRMENT, AGING AND METABOLISM AND OF INSTITUTION-BUILDING FOR THE CENTER, ITSELF. WITH RESPECT TO THE PROJECT ON SHIGELLA INFECTION AND NUTRITIONAL STATUS, FOR BOTH JESUS BULUX (PI) AND CARLOS GRAZIOSO (coPI) THE LEARNING EXPERIENCE HAS BEEN IMPORTANT FROM THE WRITING OF THE GRANT. BOTH PIs WERE FINANCED TO ATTEND THE FEDERATION MEETINGS IN ANAHEIM IN 1992, AND ANOTHER MEMBER OF THE TEAM, LICDA ISABEL RAMIREZ WAS ALSO THERE, WITH MUCH OF THE JUSTIFICATION BEING THE OPPORTUNITY TO MEET WITH THE PROJECT MENTOR, GERRY KEUSCH. THEY GAINED MUCH FROM THE MEETING ITSELF. IN TERMS OF WORK EXPERIENCE, OTHER YOUNG PROFESSIONALS, DR. CARLOS VALDEZ AND DR. ALEJANDRINA VASQUEZ (PHYSICIANS), BLANCA AREVALO (SOCIAL WORKER) AND LICDA MA EUGENIA ROMERO (CLINICAL CHEMIST/MICROBIOLOGIST) HAVE GAINED. A MEDICAL STUDENT THESIS RESEARCH PROJECT FOR DR. (TO BE) JUAN CARLOS ROMERO, HAS BEEN BASED ON THE LONGITUDINAL GROWTH COMPONENT OF THE PROJECT 086. PROJECT 086 HAS ALSO BROUGHT SOME MICROBIOLOGY TECHNIQUES, SPECIFICALLY THE CULTURING OF STOOL FOR VIBRIO CHOLERAE WHICH HAS GIVEN A NEW DIMENSION AND A NEW CAPABILITY TO THE RESEARCH TEAM, AND TO THE HOSPITAL CLINICAL LABORATORY.

THE PROFESSIONAL DEVELOPMENT HAS BEEN JUST AS PROFOUND FOR DR. SUSAN MOLINA (PI) AND HER CLOSEST ASSISTANT, DR. CAROLINA VETTORAZZI, IN PROJECT 099 RELATED TO HYPERCALORIC RICE SOLUTIONS AS ORAL REHYDRATION AND NUTRITIONAL REHABILITATION SOLUTIONS. SUSAN HAS GAINED ADMINISTRATIVE AND WRITING SKILLS FROM THE REQUIREMENTS TO EQUIP AND STAFF A METABOLIC UNIT. CAROLINA HAS ALSO DONE HER OWN REPORTING, AND HAS TRAVELLED TWICE TO DAVIS, CALIFORNIA TO UNDERTAKE IN VITRO ASPECTS OF THE PROJECT. JOINING IN AS PARTICIPANTS WITH NEW SKILLS IN THE ANALYTICAL LAB HAVE BEEN LICDAS ISABEL RAMIREZ AND MA EUGENIA ROMERO. SEVERAL INTERNATIONAL VOLUNTEERS, NOTABLY, AMY BURHKART (MEDICAL STUDENT AT UNIVERSITY OF CALIFORNIA, IRVINE) AND MA TERESA HERNANDEZ (RECENT BIOLOGY MAJOR FROM THE COLLEGE AT JOHNS HOPKINS) HAVE WORKED IN THE METABOLIC UNIT. AN INTERNATIONAL EXCHANGE STUDENT MASTERS THESIS PROJECT WITH ms, REBECCA HUDSON OF THE UNIVERSITY OF TEXAS AT AUSTIN'S DEPARTMENT OF NUTRITION HAS BEEN BASED ON THE THEME OF ALMYLASE TREATMENT OF HOME-  
PREPARED RICE SOLUTION.

MOREOVER, THE ENTREE INTO THE PERI-URBAN COMMUNITY OF "LA PERONIA" OUR STUDY SITE HAS RESULTED IN A LONG-TERM RELATIONSHIP WHICH HAS CONTINUED OVER INTO ANOTHER, DISTINCT PROJECT RELATED TO EPIDEMIOLOGICAL SURVEILLANCE OF CATABOLIC METABOLISM USING THE URINARY EXCRETION OF MONOKINES.

SINCE RESEARCH IS NOT A PROFIT-MAKING ENDEAVOR, SUSTAIN-  
ABILITY IMPLIES ENABLING INSTITUTIONS TO IDENTIFY AND SUCCESS-  
FULLY COMPETE FOR GRANTS IN THE WORLD ARENA OF FOUNDATIONS, UN  
AGENCIES, BILATERAL ASSISTANCE, AND INDUSTRY. THE ABILITY FOR  
THE YOUNG PRINCIPAL INVESTIGATORS TO GO THROUGH THE MECHANICS OF  
GRANT-SUBMISSION AND REVIEW, FOR THEM TO WRITE REPORTS, TRAVEL  
OVERSEAS, PUBLISH ARTICLES AND INCREASE THEIR VISIBILITY CONTRI-  
BUTES TO THIS SUSTAINABLE ABILITY TO FINANCE THE RESEARCH  
ENDEAVOR BY EXPOSING THEM TO KNOWLEDGE ABOUT COLLABORATIVE  
OPPORTUNITY AND BY ENHANCING THEIR STATURE AS SCIENTISTS WORTHY  
OF RESEARCH-GRANT INVESTMENT. SIMILARLY, THE RENEWAL AND  
EQUIPMENT OF LABORATORY FACILITIES WITH EVER-MORE STATE-OF-THE-  
ART INSTRUMENTATION REQUIRES A BASE IN THE SEED OPPORTUNITIES TO  
DEVELOP ANALYTICAL COMPETENCE WITH BASIC ANALYTIC TOOLS FROM  
ADDR.

4. How could the impact of this project be increased during the next 4 years as ADDR endeavors to document its capacity building model and identify effective methods for translating research results into policy and implementation?

IN LATIN AMERICA -- NETWORKING (INTRA- AND INTER-NATIONAL) WOULD BE ONE WAY TO CONSOLIDATE AND INCREASE THE EFFECTIVENESS OF ADDR. MOVING THE RESEARCH INTERESTS, AT LEAST IN LATIN AMERICA, TOWARD CHOLERA RESEARCH WOULD BE IMPORTANT. ALSO TRANSLATING OF EFFORTS FROM AIDS RESEARCH IN AFRICA TO LATIN AMERICA, WITH LESSONS LEARNED THAT MIGHT BE APPLICABLE AS THE EFFECT OF THE PANDEMIC IS FELT IN LATIN AMERICA IS ANOTHER

AVENUE TO EXPLORE.

WITH RESPECT TO TRANSLATING RESEARCH RESULTS INTO POLICY AND IMPLEMENTATION, THIS IS THE APPLIED BOTTOMLINE OF THE ADDR MANDATE. IT MUST, HOWEVER, BE TEMPERED BY A JUDICIOUS ASSESSMENT OF THE APPROPRIATENESS OF THE IMPLEMENTATION OF A GIVEN FINDING. FOR THE FINDINGS FROM ADDR-SPONSORED RESEARCH THAT ARE BIOLOGICAL IN NATURE, FURTHER APPLIED RESEARCH AS TO HOW THIS KNOWLEDGE CAN BEST BENEFIT THE POPULATION SHOULD BE FOSTERED. FOR FINDINGS FROM ADDR-SPONSORED RESEARCH OF A MORE APPLIED NATURE IN WHICH THE ORIGINAL RESEARCH WAS PILOT OR FEASIBILITY TESTING, SPECIFIC ECOLOGICAL AND CULTURAL CHARACTERISTICS WILL DETERMINE THE WITHIN-NATION APPLICABILITY AND CROSS-NATION GENERALIZABILITY OF THE FINDINGS.

Dr. Noel Solomons  
CESSIAM  
Guatemala



PAN AMERICAN HEALTH ORGANIZATION  
*Pan American Sanitary Bureau, Regional Office of the*  
WORLD HEALTH ORGANIZATION

525 TWENTY-THIRD STREET, N.W., WASHINGTON, D.C. 20037, U.S.A.

CABLE ADDRESS: OFSANPAN

TELEPHONE 861-3200

REPLY REFER TO:

Dr. Caryn Miller  
Technical Officer  
Office of Health  
AID/Bureau of Research and Development  
Washington, D.C.  
Fax (703) 875-4686

Dear Dr. Miller:

Thank you for your letter dated 3 September 1992, regarding the assessment process for the Applied Diarrheal Disease Research Project (ADDR). We apologize for our tardy reply.

As you may know, the PAHO Regional CDD Program does not collaborated directly with this project as our colleagues in Geneva are coordinating regional research efforts with this organization. At our Regional CDD Program Managers Meeting recently held in Santa Cruz, Bolivia, June 1992, we did have the opportunity to discuss ADDR project activities in the Region of the Americas with Dr. James Trostle. We believe this encounter will lead to future collaboration and information sharing.

One specific area of future collaboration with ADDR is in the identification and solution of important problems facing national CDD program identified through the implementation of the new "WHO/PAHO Focused CDD Program Review" and the "WHO/PAHO CDD Case Management Health Facility Survey". The overall objective of these reviews is to identify achievements and constraints in national programs and establish a list of priority issues. These issues are then analyzed and solutions proposed. Identified problems could then be shared with ADDR and additional study and investigation to effectively "solve the problem" may be pursued as a ADDR research activity.

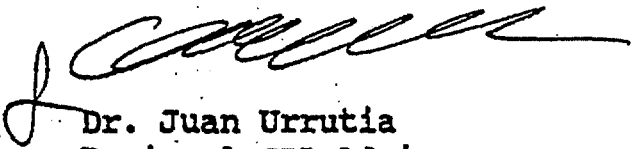
We consider the ADDR Project as an important resource in supporting research on diarrheal diseases in the Region, especially research directed to case management and prevention studies. We are current with the progress achieved in those research studies underway in Ecuador, Guatemala, Mexico, and Peru and feel these studies have contributed greatly in transferring research knowledge

137

into actual program implementation.

We will be happy to respond to any further questions raised by you review team. Thank you for your attention.

Sincerely,



Dr. Juan Urrutia  
Regional CDD Advisor  
Diarrheal Diseases Control  
Maternal and Child Health Program

OCT -1 1992

Caryn K. Miller, Ph.D  
Technical Officer  
Office of Health  
Bureau of Research and Development  
Room 1254, SA-18  
U.S. Agency for International Development  
320 Twenty-First Street, N.W.  
Washington, D.C. 20523  
USA

Telefax 1-703-875 4686

20 September 1992

Dear Dr. Miller:

Thank you for sending the ADDR Annual Report of 1991 for review. I am pleased to answer your questions, and attach my current address for any future correspondence.

The Annual Report is enjoyable reading with its concise and informative abstracts, that is, from those projects that have been completed and published. Apparently, many have not, even though the projects started quite a while ago.

To single out really important scientific contributions with potential for translating into implementation, I would like to mention Grant 030 to Keusch and Bennish for their work on shigellosis. This is traditional hard science with significant input by the U.S. researchers, but this work also stands out in another way: These investigators have addressed diarrheal deaths (mainly death in shigellosis), which is not the case in most of the other projects presented in the report.

I would like bring up just this point to answer your questions 1,2 and 4.

The total number of diarrheal deaths may still be around 4 million per year, but the estimate is very rough. There are no good figures to indicate the reduction in diarrheal deaths worldwide since the introduction of oral rehydration therapy, and there is very little information on the nature of the remaining deaths. How many are attributable to dehydration, what is the role of malnutrition, measles, secondary infections etc. What is the proportion of specific pathogens in diarrheal deaths?

POSTIOSOITE:  
PL 607  
33101 TAMPERE

KATUOSOITE:  
Lääkärinkatu 3  
Tampere

PUH/TEL: (931) 156 111  
TELEX 22415 taykl sf  
TELEFAX +358 31 156 170

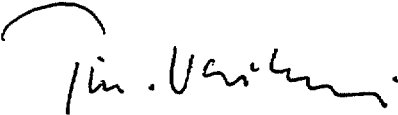
BOX 607  
SF-33101 TAMPERE  
FINLAND

What are the epidemiological risk factors for diarrheal deaths? And most importantly, what interventions have been successful in reducing diarrheal mortality.

What really matters in the next 4 years is further reduction in diarrheal mortality, and therefore much more of the research supported by ADDR should focus on this key issue. There is no question that diarrheal diseases continue to be an important investment of ADDR research funds, but a greater part of the effort should be given to mortality rather than morbidity.

I hope these comments are of help.  
Thank you very much again for sending the ADDR Report for comments.

Yours sincerely,



Timo Vesikari, M.D.

Professor of Virology and Pediatrics  
Department of Biomedical Sciences  
University of Tampere  
P.O. Box 607  
33101 Tampere  
Finland

Fax 358-31-156 170

143

September 28, 1992

Dear Dr. Miller,

ADDR Project Assessment

Thank you for your letter of September 9 requesting information regarding the Applied Diarrheal Disease Research Project. Having been associated with the Project in both Nigeria and Pakistan, I am pleased to participate in your external review. In this regard, I am forwarding the following personal responses to the five questions mentioned on the second page of your letter. Please note that these comments represent my individual views and should not be interpreted as official positions of UNICEF, CDC or the CCCD Project.

1. Although the question does not limit responses to applied research issues, I am aware that USAID funds research on basic scientific issues related to diarrheal and respiratory diseases through mechanisms other than the ADDR Project. While those efforts should be continued, the following list of priority research issues focuses on those areas which a Project such as ADDR might address during the next five years. The potential contributions that answers to these issues will make towards assisting national programmes would vary from issue to issue and should be clear to you and your staff.

Diarrheal Diseases

- \* Operational research to identify optimal approaches to improving personal and household hygiene and sanitation practices for the prevention of diarrhea;
- \* Comparative analysis of the cost-effectiveness of various approaches to improve case management practices of private sector health care providers including physicians, paramedical staff, pharmacists, drug sellers and traditional practitioners;

Dr. Caryn Miller  
Office of Health  
Bureau of Research and Development  
U.S. Agency for International Development  
Room 1254, SA-18  
Washington, DC 20523

- \* Continued efforts to define effective, safe, locally-acceptable and affordable feeding practices and home fluids for the prevention and treatment of dehydration and malnutrition associated with diarrhea;
- \* Innovative approaches to identify and promote community-based mechanisms to improve the recognition and treatment of young children with diarrhea;
- \* Further clarification of the role of micronutrients and minerals in diarrhea and overall nutrition;
- \* Support for demonstration projects exploring the potential of multisectoral approaches to improving nutrition and reducing diarrheal diseases.

#### Respiratory Diseases

- \* Development of a simplified approach to defining community understanding and response to respiratory infections in young children;
- \* Operational research on the efficacy of antenatal immunization of pregnant women with pneumococcal vaccine for the prevention of ARI in infants;
- \* Continued efforts to improve interview and physical examination techniques for detection of ALRI;
- \* Clarification of the efficacy of preventive strategies to reduce major risk factors for fatal ARI;
- \* Support for sentinel surveillance systems for monitoring bacterial ARI antimicrobial resistance patterns;
- \* Field-testing of simplified schedules of appropriate antimicrobial therapy;
- \* Identification of improved training techniques to upgrade clinical skills;
- \* Support for experimental projects on comprehensive, community-based ARI control initiatives.

2. Further investments in diarrheal and respiratory disease research will be important areas for AID funding during the next ten years. Although considerable progress has been made, particularly in the field of enteric diseases, further investments during the next ten years will be essential to ensure effective implementation of research findings at the country and community levels.

AID's comparative advantage lies in its ability to access the considerable research expertise available within the U.S. In this regard, consideration should be given to identifying the most competent U.S. institutions for expanding the network of contributors to applied research on diarrheal and respiratory diseases. In addition, the working relationships established between USAID HPN staff and national CDD and ARI programmes in most developing countries enables AID to serve a critical role with regard to implementation of research findings.

Strengthening research capacity is an important contribution of AID-supported development assistance but additional efforts will be required during the next ten years to further develop and sustain the research capacity of the institutions already assisted through ADDR activities. This is a key area of AID assistance and should be considered for expansion in a select group of countries with weaker infrastructures. The ADDR Project has generally concentrated its activities on some of the more established institutions in stronger developing countries; efforts should be made in the next phase of the Project to assist additional institutions to develop applied research capacities.

3. ADDR's current role is generally appropriate and serves a most important linkage between basic scientific research and the implementation of research results to improve national programme performance. Although a number of ADDR-funded studies may not be clearly "applied" in nature, the majority of ADDR studies have had some level of relevance to applied issues.

In both Nigeria and Pakistan, I believe that there has been a credible effort to identify research studies which would address, if not "solve", relevant issues for these developing countries.

Although there was only limited progress until 1990 regarding institutional strengthening in Nigeria, I understand that there has been recent enthusiasm about further capacity-building in that country. In Pakistan, the application of the Pressler Amendment currently limits the potential for institutional strengthening after FY 93. Overall, it would seem quite useful to establish a set of criteria which could serve institutions, developing countries, ADDR or similar projects, and funding agencies to monitor and assess contributions towards the sustainability of the institutional strengthening process.

143

A broad spectrum of research studies have been supported to date. The impact of the Project might be increased by focusing support on a limited number of themes or programme objectives. These areas of research priority might vary from country to country but would allow improved assessment of the impact of such support. An analysis of the areas addressed during the early years of the Project with some clarification of the achievements gained would be of considerable value. Medium-term follow-up of the continuing impact of related applied research activities in the targeted countries may also contribute to an impact assessment.

As mentioned above, establishing criteria for the assessment of contributions towards institution strengthening would also allow more informed judgements about the advances made in this important area of ADDR emphasis. Highlighting assistance to weaker institutions might conceivably result in greater "impact" than continuing to emphasize institutional-strengthening activities in stronger institutions of relatively more developed countries.

5. ADDR staff have attempted to coordinate their research activities with relevant agencies in both Nigeria and Pakistan. Although differences in the mechanisms for study approval as well as categories and rates of support for research studies have surfaced in both countries, the sharing of individual research protocols and of lists of funded studies has assisted in upgrading the quality of research and in averting unintended duplication. Collaboration in the area of training in research methodology has also been helpful. Recently, UNICEF Pakistan and ADDR have agreed on joint financing of research studies. The ADDR Resident Advisor in Pakistan works closely with relevant UNICEF staff and facilitates mutual efforts to improve the coordination of national research activities. Further expansion of the role of the ADDR Project in the support of research coordination mechanisms in selected developing countries during the next phase of the Project might also be considered as one aspect of AID's support of sustainable contributions towards improved Essential National Health Research.

I hope that these responses will be of some assistance to your review. Please let me know if any further information is required. It would be appreciated if you could kindly add my name to the mailing list for the final report developed by the review team.

Yours sincerely,

*JS Weisfeld*

Jason Weisfeld MD MPH  
Chief, Health and Nutrition

## Appendix 5

## Appendix 5

# EXCERPTS FROM SELF-EVALUATION QUESTIONNAIRES

*Based on 40 questionnaires received as of November 11, 1992.*

*Excerpts are unedited except for deletions, correction of spelling, and some minor word changes to improve comprehension.*

*The full questionnaire and accompanying letter appear on pp. 2-4. This summary is based on responses to questions 7-12.*



APPLIED DIARRHEAL DISEASE RESEARCH PROJECT (ADDR)  
HARVARD INSTITUTE FOR INTERNATIONAL DEVELOPMENT  
One Elliot Street, Cambridge, Massachusetts 02138

Tel. (617) 495-9791  
Fax: (617) 495-9706  
Cable Address: HIID  
Telex: 275276  
E-Mail Address:  
ADDR@HUSC.HARVARD.EDU  
ADDR@HARVARD.BITNET

1~

7 August, 1992

Dear 2~ :

The ADDR Project will complete its seventh year of activity on September 29, 1992. Although this marks the official end of the first ADDR contract, we are pleased to inform you that a follow-on project from USAID will allow ADDR to continue working until May 31, 1996.

USAID will be conducting another evaluation of ADDR this September. Comments from ADDR investigators formed an important part of the last Project evaluation in February, 1990. AID has therefore asked us to request a self-evaluation from the principal investigator of each funded project. As before, this is a good opportunity for you to mention how the project has assisted you, your department, or your institution. It is also an important chance for you to offer us your constructive suggestions for changes.

We will also be giving the names and phone numbers of some of you to the evaluation committee, so that they can call you and ask you about the project.

We will use information from our files to supplement your written comments, but they cannot substitute for your candid and complete responses. We are enclosing pages from our 1991 Annual Report describing your project(s). Please correct any errors, make any additions and return these to our office, paying special attention to manuscripts, presentations, and publications.

We ask that you answer the attached questions as soon as possible, and return them to our office no later than 4 September. Because of this deadline, please send your answers by fax whenever possible.

Please feel free to add any comments you wish. Call us if you have any questions about this letter. We look forward to your comments.

Yours sincerely,

Richard A. Cash, M.D., M.P.H.  
Principal Investigator

enclosure

Please answer all of the following questions. Your answers should not be typed on this page, but should include the numbers used below. Please limit your report to 3 or 4 typewritten pages.

1. Name of Principal Investigator (PI).
2. Name of person preparing this report, if different from the PI.
3. ADDR Project Title.
4. ADDR Project Number.
5. Since your last report of January, 1990 (for grants funded before 1/90), or since your project was funded (for those funded since 1/90), have you produced any additional analyses of your data? Please describe them briefly (no more than 1 page). Emphasize any important or controversial aspects.
6. Please review the attached pages from the ADDR 1991 Annual Report describing your project. Update and correct it if necessary. Please pay particular attention to presentations, publications, and manuscripts.
7. For projects which have analyzed data already: What effects have your results had on health policy, programs, or behavior changes? (For example, convince a hospital to change a diet, distribute new educational materials, implement a tested intervention.)
8. What important logistical, technical, or financial problems have you encountered in your project since January, 1990? Please describe them briefly. Please point out areas that are ADDR's responsibility.
9. Has the ADDR Project had any impact on your scientific career? What? On your department or institution?
10. Could you have done this work if you had not received support from ADDR? If not, why not?
11. What could the Project do to improve its assistance to you and to other investigators? (For example, in proposal reviews, use of consultants, workshops.)
12. Please write any other comments which you would like ADDR to pass on to USAID.

## Effects of Results

*For projects which have analyzed data already: What effects have your results had on health policy, programs, or behavior changes? (For example, convince a hospital to change a diet, distribute new educational materials, implement a tested intervention.)*

Comment: This question asks the investigators to evaluate the effect of their projects. Several investigators (Gani, Santoso, Muninjaya) pointed out that this is difficult to do except for the projects that included evaluation as part of the design. Investigators who were able to point to definite effects on policy, programs, and behavior included Gutiérrez, Salazar-Lindo, Nurko, and Qureshi.

## Responses

There are several changes of the situation of the DD programme in Indonesia, but we are not convinced whether it is the effect of our study or not.

1. Health policy: The CDD programme in Indonesia is giving more attention in correct case management of physicians, especially health center physicians. Several CMT training for health center physicians or pediatricians has been conducted lately.
2. Programme: In our study we use educated materials for intervention to physicians. We also distributed calendars with messages of DD such as prevention, promote oralit and discourages inappropriate drugs for diarrhea to community in our hospital catchment area.
3. Behavior changes: Our pediatricians have arranged mini workshops for correct case management in DD in our hospital and our nursing director wrote a paper about oral rehydration therapy, correct case management at home and prevention of DD in a journal published in Atma Jaya hospital.

Lusia Gani, Grants 044 and 106 (Indonesia)

Results from this research project were given as examples in meetings. The agencies concerned with water and sanitation of MOH were more convinced that more attention should be paid the "software" aspect of water and sanitation. More research on behavioral aspects were done by various agencies of MOH . . . I had an opportunity to provide some input to such study.

Nongluk Tunyavanich, Grant 014 (Thailand)

The Ministry of Health was very interested in the results our research. Through WHO, they sponsored us (PI and co-PI) to go to Sweden so that we can present our report at the 1st International Congress on Behavioural Medicine, July 1990, held at the Uppsala University, Uppsala, Sweden.

Sarlito Wirawan Sarwono, Grant 043 (Indonesia)

Although the impact of the face to face training on drug prescribing in acute diarrhoea has not been fully evaluated at the present stage, the approach of face to face training to prescribers at the health centres may be feasible to be incorporated into the existing supervision visits. Interest has been expressed by the district health offices to try this face to face training in their supervision system. Follow up approach by investigators to health authority to reconsider their conventional approach in training will be done upon the completion of the study.

Budiono Santoso, Grant 080 (Indonesia)

We have held a seminar to disseminate the outcome of the study to program managers. Participants of the seminar were from the provincial administrators, local health authorities, UNICEF/WHO Jakarta, the Directorates of the Ministry of Health from Jakarta . . . besides some participants from the National Diarrheal Disease Control Program. The response of the participants were quite encouraging. They will use the results as an input for the Health Education Program. The UNICEF people invited Dr. Rusdi Ismail Head of The Study Group to discuss again the possibility of support from UNICEF to follow up this study.

Hendarmin Aulia, Grant 047 (Indonesia)

It is rather difficult to answer how far this completed study effects on health policy or programs both locally and nationally since the study didn't make any special follow up whether the program managers use this study result or not. However, to answer this question, I suggest ADDR should make a follow up question to national CDD program manager in Jakarta. It is better to use the second study . . . (grant no. 092) for policy implications because it consists an intervention component.

Gde Muninjaya, Grants 045 and 092 (Indonesia)

We have held a seminar to disseminate the outcome of the study . . . to program managers. . . . The response of the participants were quite encouraging. The representative from the Center for Health Education promised to use our finding that

child's condition is one of the important determinants for adequate intake during diarrhea and better attentive care by the care giver is the accepted alternative to overcome this risk factor. Next year this center will commence their "Face to Face Health Education" and she said that our finding is a potential message for this kind of communication.

Nancy Pardede, Grant 053 (Indonesia)

Project 076 was a direct result of Project 009. In the former, we have included the application of the same intervention strategy in 16 clinics of the Mexican health system, including both the Social Security Institute (IMSS) and the Ministry of Health (SSA). . . . Successful results from these two projects have allowed us to propose a similar teaching strategy in the whole state of Tlaxcala. The effect of the teaching strategy has been less when we covered more clinics . . . This points to the fact that such an intervention can not be generalized without an adequate supervision strategy. On the basis of these results, we have devised an intervention plan, focused on the teaching of physicians, and with adequate supervision, in 36 delegations of IMSS (covering the whole country). From another point of view, we have explored a new teaching strategy that we hope will have an even larger impact. This intervention is based on the implementation of teaching and medical care centers. This idea has crystallized in a new project submitted to ADDR.

Gonzalo Gutiérrez, Grants 009 and 076 (Mexico)

This work will be presented at the second Research Meeting of the National Institutes of Health in Mexico City. This is an important forum where the Minister of Health will be presiding . . . This project has already had a major impact in the treatment of severely malnourished children at our institution. These patients are not getting elemental diets any more, something which has decreased the cost of their management tremendously. It was also customary to feed these children with NG tubes . . . However, since we completed the study most children get fed the chicken diet by mouth.

Samuel Nurko, Grant 078 (Mexico)

We have done a preliminary report which was presented to the health promoters in the area. The field team developed a folder to instruct the mothers on better methods of sanitation. The folder was developed by the local field workers who live in the same area using language and pictures that were understandable by the mothers.

Carmen Marín Baratta, Grant 089 (Peru)

It would have been a great opportunity to define policy strategies on the rational use of drugs for the treatment of diarrhoea during the final workshop of presentation of results in Lima. However, personal disagreements among consultants of agencies and MOH authorities led the discussion to differences in other aspects and endless disagreements. ... The national coordination of the CDD programme has also suffered several changes and therefore lack of stability to proceed with decisions.

Patricia Paredes, Grant 104 (Peru)

The project was to carry out an analysis of the effectiveness of a training program that was funded by USAID. This training program was the first nation-wide effort in Peru to improve knowledge and practices concerning clinical management of infantile diarrhea among physicians and nurses. [The results showed] significant improvement in the use of ORT and a reduction of antibiotic prescription at health facilities. The training program was also effective in promoting the establishment of new Oral Rehydration Units in the different participating hospitals.

Eduardo Salazar-Lindo, Grant 023 (Peru)

A health educational intervention is currently being developed with the active involvement of the community. We have inputs from community chiefs, the primary health care committee, village health workers, landlords, market women and community development associations, mothers and child caretakers and local government health education department.

E.E. Ekanem, Grant 025 (Nigeria)

The villagers are learning the importance of Oral Rehydration Therapy and their attitude to their children's illness is gradually changing. Some of them are now appreciating the regular visits of the project team to their village.

B.M. Afolabi, Grant 097 (Nigeria)

We have circulated our paper on Perception and Treatment of Diarrhoeal in Cameroon to departments of the Ministry of Health and to other organisations we thought might use our results. At the moment it is difficult to assess its impact on health policy.

P. N. Nkwi, Grant 056 (Cameroon)

AKU CHS programmes are incorporating programmatic changes in CHW training based on the findings of this study. The field CDD programme is being improved by further training of CHWs particularly in better rehydration and nutritional management of diarrhoea. Maternal behaviour change is being attempted through practical demonstrations and health messages.

Asma Fozia Qureshi, Grant 036 (Pakistan)

After this project was completed, a definite awareness has developed with regard to vitamin A status and anaemia status of the slum children among the faculty members of Community Health Sciences Department (CHS) of The Aga Khan University Hospital. Discussion is going on whether to supplement all of these children with vitamin A capsules and iron or to institute a training program for the slum mothers.

The CHS Department has also conducted a small scale survey in a subsample of children to find out the type of anaemia prevalent in these communities. The results further suggest that a high percentage of children suffer from iron deficiency anaemia. Following our project, Pakistan UNICEF has become more interested to find out the prevalence of vitamin A deficiency in Baluchistan and Sindh areas of Pakistan. Preliminary investigations suggest that these areas are susceptible to develop vitamin A deficiency in children.

Ayesha Molla, Grant 035 (Pakistan)

## Problems

*What important logistical, technical, or financial problems have you encountered in your project since January, 1990? Please describe them briefly. Please point out areas that are ADDR's responsibility.*

Comment: Many investigators mentioned the delay in receiving payments from ADDR. Problems due to internal conditions in the investigators' countries included difficulty in enrolling patients, turnover of medical staff, political instability, lack of trained personnel, and difficulties in obtaining supplies. Some investigators reported no significant problems.

## Responses

We did not face with any financial problems. ADDR had given enough financial support for us to run the project smoothly since January 1990.

Sumitr Sutra, Grant 084 (Thailand)

Because of the long delay in funds transfer, we therefore, encountered some financial problems.

Sungskom Jongpiputvanich, Grant 020 (Thailand)

Because of limited budget we couldn't hire several research assistants. It caused limited time and effort for monitoring field activity (data collection). We received the first installment only 25% of the whole budget while field activity/data collection needed more. We received the second installment of expenditure one year after we received the first installment. The development of educational material has been postponed 4 months.

During the first data collection, 20 health centers had no DD cases of under five at the time of the clinic observation, we must repeat the data collection. Several physicians have been trained by the CDD before data collection has finished. Several health center physicians had another activity during data collection and during clinical management training and during communications workshop. They can't leave their health center. . . . We faced several problems during data cleaning because of limited experience in data analysis.

Lusia Gani, Grants 044 and 106 (Indonesia)

We hardly have any problems encountered in our project since the preparation of the study up until now, the last stage of the study (report and publication writing).

Yati Soenarto, Grant 102 (Indonesia)

Research activities in the field/health centres often coincide with other activities in the respective health centres, which delay the implementation of project.

The clearance of cheque sent by ADDR office normally will take 2 months. Transfer of funds by cheque, if possible, should be changed by other quicker method of transfer.

Budiono Santoso, Grant 080 (Indonesia)

We have problem at the beginning, about the first installment payment check. Actually since May 1991, we have already received the check for the first installment, but until the end of the year 1991 we could not get the money in cash. . . . It takes 3 to 5 months

to cash the check. We hope that ADDR could find another way how to send the money directly to us.

Ratna Djuwita, Grant 081 (Indonesia)

Financial and administrative problems for the second project (092) . . . caused several months delay for financial agreement. This was due to misunderstanding with the policy and administrative process between ADDR and the local USAID Mission in Jakarta. After we signed the agreement paper and consultant visited us and review the project, funds should be released. But this was not the case, because the project had not any clearance yet made by USAID in Jakarta and meanwhile the project in Lombok has started.

Gde Muninjaya, Grants 045 and 092 (Indonesia)

Experience from the first study (grant no. 046) was more helpful for us since we had consultants who continuously worked with us throughout the study (from the proposal development up to paper writing for publication).

Nurhayati Prihartono, Grant 091 (Indonesia)

The main logistical problem encountered during this project was the frequent changes in the medical staff in the clinics. After two years of work, 40% of physicians had moved to a different medical unit.

From ADDR's point of view, the main problems have been related to delays in the sending of the monthly installments. In many instances this delayed our work.

Gonzalo Gutiérrez, Grants 009 and 076 (Mexico)

The two main problems have been related to: 1) The lack of a motivated and responsible physician to work in the field. 2) A very low number of diarrhea cases during the second half of 1991. This is probably due to the extensive educational campaign launched at a national level in response to the cholera epidemics, as the decline in diarrhea cases was observed at all levels.

Homero Martínez, Grant 010 (Mexico)

Our study was not designed properly. We did not provide the children with enough calories, which has been reflected in small, but significant weight gains. It is my impression that the results of the study would have been stronger if we would have given higher caloric amounts.

Samuel Nurko, Grant 078 (Mexico)

During the shift from year one to year two of ADDR support there was a considerable delay in sending the instalment and we had to stop the field study for a couple of months.

Once we started . . . we had difficulties to have the cases and had to look for other clinics to be included. . . Finally, we are working with clinics which in spite of the low number of cases, they are constant; except for the summer since most personnel were on vacations.

Javier Torres, Grant 095 (Mexico)

Our main problem was always related to the recruitment of patients . . . the political situation of our country made it difficult because we are conducting studies in public hospitals where usually we need to confront strikes . . . In other cases, the cause for the low rate of recruitment was that we prepared inclusion criteria such rigid that we were unable to recruit patients because that wasn't the reality of our country.

Pedro Alarcón, Grant 096 (Mexico)

The major logistical problem has been the recruitment of the cases. . . . It may be due to the improved hygienic practices of the population because of the cholera epidemic that appeared in 1991. However, we also think that before starting a project of this nature, it is necessary to have a more accurate information of the microbiological situation of the community (probably a pilot study).

Jesus Bulux, Grant 086 (Mexico)

Due to the financial constraints for the population of Peru it was difficult to complete the interviews to actual caretakers of children suffering of diarrhoea in private settings. . . The increase on salaries (due to the economic crisis of the country) to meet the needs of the fieldworkers and the delay in completing the required number of cases per physician contribute to restrict the budget. This situation made it impossible to carry out

the last part of the study, which aimed to assess if the workshop had some effect in the physicians who attended the meeting.

Patricia Paredes, Grant 104 (Peru)

We encountered no financial, technical or logistical problems in the implementation of this project throughout its duration.

Eduardo Salazar-Lindo, Grant 023 (Peru)

The major logistical problem has been data cleaning and verification, with the hard copies of questionnaires being in Nairobi. Two major reasons contributed to this problem:

- i. the delay in acquiring a computer for data entry, and breakdown of the computer during the study period
- ii. inadequate data management experience and analytical skills of the study PIs (at the time of the study) and hence, over-reliance on the poorly staffed data management team.

Nazrat M. Mirza, Grant 039 (Kenya)

After the end of the data collection phase, it was needful for me to analyse the data. I could not do it in Cameroon where there is not so much literature. With a fellowship from Rockefeller Foundation I spent four months at the Harvard Medical School, Department of Social Medicine to write up my results. While at Harvard, I thought ADDR/HIID would assist me during the analytic and writing up phase. I received no support. It was the Center for African Studies of the University of Florida in Gainesville that provided me with the technical support and funds that permitted me to make some significant progress. I still have a lot of data from the three sites that need some assistance to turn that into some articles. ADDR/HIID is not providing that.

P. N. Nkwi, Grant 056 (Cameroon)

None of the problems described are ADDR's responsibility.

The logistical, technical and financial problems are circumstances beyond our control on this end. For example foul weather interfered with travelling on water; some mothers

would be quite reluctant to come out with their children in the rain. It is not unusual for our vehicle to have breakdowns, or for the boat engine to fault.

A low turn-out occurs on the day our visit coincide with the market or fishing days, as these are central to the lives of the villagers. No attempt is made to interrupt this lifestyle. Thus we have to reschedule our visit for another favorable day.

We had a problem concerning the financial aspect. The ADDR-HIID cheque that was sent to us some time ago was discovered missing from the bank. It took about six months for me to be informed, and as soon as the notion came to me it was reported to Dr. Fitzroy Henry. The field workers were not paid their full salaries for about two to three months which coincided with the rainy period. This led to laxity among the field workers and noncompliance of some mothers. The project team is now doing its best to regain the original momentum of the project.

B.M. Afolabi, Grant 097 (Nigeria)

Our line printer developed a fault and it was not possible to find a replacement for the defective head.

The main problems encountered in the projects are NOT ADDR's responsibilities. They include delays in the release of funds from the Chief Accountant which often run into several months; and the inability to find suitably qualified field workers and supervisors.

E.E.Ekanem, Grant 025 (Nigeria)

The most difficult financial problem encountered is the length of time it takes for the cheques to be cleared and cash becomes available.

U.A. Igun, Grant 064 (Nigeria)

The most important difficulty we have was the unavailability of our own (Pathology) HPLC and the retinol standard supplied by Sigma Chemicals. Also, HPLC grade reagents were not available in the country for some time.

ADDR's responsibility is to check if all the logistics needed to complete the project are available to the investigators. If not, ADDR should at least offer suggestions for appropriate solution of the problem.

Ayesha Molla, Grant 035 (Pakistan)

## Career and Institution Building

*Has the ADDR Project had any impact on your scientific career? What? On your department or institution? What?*

Comment: Most investigators reported that ADDR had contributed to the growth both of their careers and of their institutions.

### Responses

Yes, the ADDR project provided our team the opportunity to integrate knowledge and experience of personnel in both medical and social science fields and to work as a team with personnel from different departments and different universities.

Tippan Navawongs, Grant 032 (Thailand)

I am always invited by the Ministry of Health to give lecture on nutrition and research methodology.

Mandhana Pradipasen, Grant 015 (Thailand)

We have learnt a lot from these studies and have shared our experiences by:

present the research results at local, national and international meeting.

teach medical students and students in the health science faculty.

organize research workshops for at least 400 health personnels in the northeast of Thailand, as I am the director of clinical epidemiology unit, in last 4 years.

Sumitr Sutra, Grant 084 (Thailand)

Following this anthropological study supported by the ADDR, I have been recognized as one of the few medical anthropological resources in the country. I have been invited to teach in the university several times, either for master or doctoral degree. I also use this experience to improve my consultation either in the country or in international community.

Chanpen Choprapawon, Grant 007 (Thailand)

Create relationship with Dept. of Health (CDD programme), develop our hospital catchment area to west Jakarta, not only North Jakarta. Improve our hospital function as training hospital for health center physicians. Introduce our medical faculty to international journal.

Lusia Gani, Grants 044 and 106 (Indonesia)

Yes. I received several offers for being involved in international collaborative studies which mentioned about my experience with ADDR project. . . . I am also appointed as one of the nominees for the member of Board of Trustees of the International Center for Diarrhoeal Disease Research, Bangladesh.

In our university, we can contribute in the student research program by accommodating several students from the Faculties of Medicine and Anthropology in our ADDR project.

Yati Soenarto, Grant 102 (Indonesia)

The project has . . . facilitated the collaborative work between different disciplines, i.e., health and social science disciplines.

Budiono Santoso, Grant 080 (Indonesia)

Yes. My expertise in research methodology and management improved. My contact and link with expert and relevant institution increased. My work in research and CDD Program are respected by my University and Health Administrator.

Rusdi Ismail, Grant 102 (Indonesia)

Yes, the ADDR project has improved our research capacity. As a teaching staff in our faculty to be promoted we have to do research. . . . And also for our department and institution, having this research project allow us to collaborate with the Ministry of Health.

Ratna Djuwita, Grant 081 (Indonesia)

Yes, very much. The presentation of the study findings in Nepal and the technical support that we received to publish the result at the international journal has a positive impact on my future scientific career both on my department and institution. The value of the study had added my credit point on scientific work.

Gde Muninjaya, Grants 045 and 092 (Indonesia)

Yes, the ADDR project has improved our research capacity, such as proposal development, data analysis, report writing and paper writing, as well as paper presentation in international conference. Having this research project allows us or our institution to collaborate with other institution, such as The Board of Alim Ulama. Other important thing is meeting with other investigators during the workshop held by ADDR project gives us a chance to build an international network.

Nurhayati Prihartono, Grant 091 (Indonesia)

ADDR has had a very large impact on our working group. Following the earthquake in 1985, we were clinical investigators without patients. Thanks to ADDR's support (both economical and technical), we reorientated our work. With this support, we have focused on epidemiological research oriented to the field. The contact promoted by ADDR between different researchers and institutions both in Mexico and in other countries, has widened our perspectives.

ADDR's influence has been reflected in the creation, within IMSS, of a new research unit, focused on epidemiology and health services, and of a new office within this same area. Also, an interinstitutional research group (IMSS-SSA) has been formed.

Gonzalo Gutiérrez, Grants 009 and 076 (Mexico)

Yes. This project enabled me to complete my Ph.D. thesis, and it was an excellent way to combine my main scientific background: international nutrition, medical anthropology, epidemiology, and clinical pediatrics. I can hardly imagine other ways in which such a combination would have been possible.

Homero Martínez, Grant 010 (Mexico)

This project has given an important push to my academic career in Mexico. . . . One of the most important aspects has been the independence that having an outside grant provides. Furthermore it became also clear that the hospital authorities became also very interested in the development of the Department. . . . This has been a very important learning experience that has allowed me to design better other projects. This learning experience can be extrapolated to other members of our Department.

Samuel Nurko, Grant 078 (Mexico)

I have had more relationship with community health workers . . . This contact has broadened my scientific vision and now I am closer to the patient than to the toxins. Our department has also gained more experience in dealing with field work and primary health care units. This relationship has made us easier to start other projects in community.

Javier Torres, Grant 095 (Mexico)

For all our group, this has been the first experience in planning all of the aspects of a research project . . . With the knowledge that we have acquired during this experience, the possibilities of developing a future grant research in a more realistic and affordable way have improved substantially. The experience has also given us the opportunity to develop leadership and organizational skills that permit us to accomplish our daily duties at CeSSIAM in a better way.

Jesus Bulux, Grant 086 (Mexico)

The ADDR team has contributed in my scientific career since the first moment they knew about my interest in diarrhoeal diseases research. I have received useful advices, suggestions and comments on preproposals not necessarily submitted to ADDR and valuable information (methodology, recent publications, etc.) was sent to me by project officers. . . . During the study process permanent correspondence has existed between our team and the ADDR consultant.

The ADDR project has also supported other projects at the Instituto de Investigación Nutricional for different researchers. The coordinated work with the Research Component of the Programme for the Control of Diarrhoeal Diseases in Geneva, WHO, provided the opportunity to multicenter investigation as it is the case of the testing of an algorithm for the management of persistent diarrhoea.

Patricia Paredes, Grant 104 (Peru)

The ADDR Project has been very important in our scientific activities, because we got to organize a multidisciplinary team to study a relevant domain of public health. This team includes experts and technicians of different institutions that means an exceptional collaborative link in this country.

Fernando Sempertegui, Grant 109 (Ecuador)

It has expanded my horizon and opened up new areas of research for me. For example, I have now become involved with INRUD and its activities.

ADDR and its research interest have become known in this University through this project. As a result two teams applied for funding and one of them is currently under review.

The computer made available has been very helpful to me and other colleagues in data analysis. It has also increased computer literacy in the department.

U.A. Igun, Grant 064 (Nigeria)

The ADDR Project has given me a deeper insight into the health problems of a particular Nigerian community, i.e., the coastal dwellers, especially the paediatric patients; and on how to prevent early infant mortality in this section of our community.

The other workers in my Institute are emulating this project team in that they too are working hard to get sponsors for their various projects.

B.M. Afolabi, Grant 097 (Nigeria)

This is the first project in which I am the Principal Investigator. It has offered me a valuable experience in managing a research team and executing a research project. It has given me the opportunity to meet with scientists from other parts of the world. Thus one becomes exposed to recent developments in diarrhoeal disease research and findings.

The computer has been of tremendous help (in data analysis) to members of our department and other colleagues.

E.E. Ekanem, Grant 025 (Nigeria)

ADDR has had a tremendous impact on my scientific career, despite all. With ADDR funds, I was able to bring together both anthropology and medical students. Some of them are working in diarrhoeal related areas. . . . Our department has received funds and attained some visibility thanks to ADDR connection. The articles that will be published as a result of this project will certainly assist in our career.

P. N. Nkwi, Grant 056 (Cameroon)

The ADDR project has had a tremendous impact on my scientific career. It was the first community-based longitudinal project that my co-investigator and myself had designed and carried out... Through the proposal development workshop and the brief data management workshop, we were introduced to research design and methodology.

I have also interacted with colleagues both in Africa and internationally, through the workshops that ADDR organized in Kenya...

The department of Paediatrics, University of Nairobi, of which the PIs are faculty members, has also benefitted from the ADDR project, in terms of improvement of research skills of their faculty and also the fact that the project provided one personal computer to the department. The publications from this project will also be a reflection of departmental activities.

Nazrat M. Mirza, Grant 039 (Kenya)

ADDR funding has created opportunities for pursuing much needed research in areas for which support (financial and technical) was not available locally. This support has helped in advancing personal scientific interest thus contributing directly towards achieving the universities' objectives of pursuing research relevant to the needs of the community/country.

Salma H. Badruddin, Grant PO18 (Pakistan)

Ability to conduct research, analyse data, etc., have helped the investigators improve their skills and competencies. Experience with this project helped us write another grant on respiratory infections. Grants, research and publications are important for career advancement at AKU.

Asma Fozia Qureshi, Grant 036 (Pakistan)

The ADDR project had a significant impact on the department as well as on the institution. The department is trying to buy the HPLC at its earliest convenience, so that for estimation of vitamin A, we do not wait for the mercy of other departments.

My department at The Aga Khan University has sponsored my journey to the Iowa State University for participating at the 'workshop and training course on the use of relative dose response (RDR) and modified relative dose response (MRDR) tests for assessing vitamin A status' held on August 9-15, 1992.

Ayesha Molla, Grant 035 (Pakistan)

## Importance of Support from ADDR

*Could you have done this work if you had not received support from ADDR? If not, why not?*

Comment: Most (but not all) investigators reported that they could not have done this work without ADDR support. Several mentioned ADDR's provision of technical assistance, workshops, etc., in addition to financial assistance.

## Responses

No, we could not have done this work if we had not received support from ADDR because no financial resource available at that time.

Tippan Navawongs, Grant 032 (Thailand)

I could not, because the ADDR project and staff did not only provide us with financial assistance but also academic, technical and mental support.

Mandhana Pradipasen, Grant 015 (Thailand)

If I did not receive support from ADDR, I could probably get support from other funding agency. But I am sure that I could not get technical (consultation, training, manuscript review and preparation for publication) and moral support from any agency other than ADDR.

Sumitr Sutra, Grant 084 (Thailand)

For research study, we could get grant and technical support from another donor agencies, either local, regional or international. But for writing research results to international journal and made international presentation I think ADDR give the best support.

Lusia Gani, Grants 044 and 106 (Indonesia)

Probably no. Because we don't have enough trained personnel (administratively and technically) to develop the project from the start (writing proposal) to the end (final reporting).

Sarlito Wirawan Sarwono, Grant 043 (Indonesia)

We might not be able to do this work if we do not get any support from ADDR, since for such a highly cost study, budget cannot be covered by the University.

Yati Soenarto, Grant 102 (Indonesia)

Without ADDR support the project would have been very difficult to undertake since the required funds are not easily obtained from domestic sources. Consultation provided by ADDR is also vital ensuring the scientific standard of the proposal.

Budiono Santoso, Grant 080 (Indonesia)

No, we could not. It is difficult to get such funding and comprehensive support given by the ADDR project.

Ratna Djuwita, Grant 081 (Indonesia)

Nothing impossible under the sun. However, I must pay my respect to what have being done by ADDR to support us.

Rusdi Ismail, Grant 101 (Indonesia)

Very likely, yes. However, it is clear that ADDR's support has been determinant to this work, facilitating it.

Gonzalo Gutiérrez, Grants 009 and 076 (Mexico)

I feel that for some junior researchers the possibility to attend meetings, workshops, short courses must be promoted by ADDR, because the exposure is very important in terms of exchange of experiences and in terms of capture new ideas.

Pedro Alarcón, Grant 096 (Mexico)

Given the scarcity of financial support from other sources, we think that we could hardly have the opportunity to develop this research without the support from ADDR. We are young researchers, with limited experience in specific and specialized work areas.

ADDR gave us the opportunity and the commitment to generate an original work, and the technical and financial support to develop it.

Jesus Bulux, Grant 086 (Mexico)

ADDR's support was very important for the completion of this study. . . . We have been able to buy much needed computing equipment and software, and we have been able to hire specialized personnel (nutritionist, research nurses, and computing experts).

Samuel Nurko, Grant 078 (Mexico)

No, we would not have been able to perform the study. Even with the budgeted amount of money we had problems. Stool cultures were much more expensive than projected and in future projects we need to provide more realistic figures.

Carmen Marín Baratta, Grant 089 (Peru)

The present research could not have been done without the support received by ADDR, not only in terms of financing but also in terms of the technical assistance received during the project. The assistance received to solve some problems, included those to obtain the ethical clearance within our institution was basic to the completion of the research. . . . I am sure this attitude is not the main characteristic of other agencies which do not bother to provide the investigator with tools to clear issues that can prevent the funding of proposals.

Patricia Paredes, Grant 104 (Peru)

In Ecuador is really difficult to get support to do research. We would not have done the study without ADDR support.

Fernando Sempertegui, Grant 109 (Ecuador)

We probably may not have been able to do this project within the time frame that we did. Firstly, we were relatively "young" and unknown as researchers, and hence getting funding may have been difficult. Secondly, the magnitude of such a study for research novices may have jeopardized the quality of the study. It was therefore commendable that ADDR provided us with technical assistance by experienced researchers who worked with us and helped us avoid such pitfalls.

Nazrat M. Mirza, Grant 039 (Kenya)

We would still have done this work even if ADDR did not give us the funds.

P. N. Nkwi, Grant 056 (Cameroon)

The obvious answer is No. Funding of research receives very little attention from the federal government and the private sector. The financial support from ADDR for this project, for instance, is more than the total sum of money allocated to the College of Medicine for research and conferences. Bureaucracy and other non-scientific considerations make it very difficult to get grants from international organizations such as WHO and UNICEF.

E.E. Ekanem, Grant 025 (Nigeria)

Alone by myself, no. This is because this project is capital intensive and it requires a lot of time for training other health personnel involved. Also the logistics of both land and water transportation is huge for an individual. However, if my Institute or the Federal Government of Nigeria sponsors it, I think it will be similar to the situation where ADDR is the sponsoring agent.

B.M. Afolabi, Grant 097 (Nigeria)

No, I could not have done this work without ADDR support.

- a) the finance
- b) the literature made available
- c) the computer and software made available,

were very necessary for this work. I do not know where I could have got such support. Without them, this work could not have been done.

U.A. Igun, Nigeria, Grant 064

It would have been extremely difficult to have conducted this project without ADDR support. The project is labour intensive, especially data collection, and needed financial support. In addition the technical support provided by ADDR consultant Dr. K. Hendricks will be invaluable in working out the methodology for the use of deuterium to estimate breast milk production.

Salma H. Badruddin, Pakistan, P018

Pakistan has very limited funds for research as does AKU, and this study would not have been possible without support.

Also expertise in medical anthropology in Pakistan is scarce.

Asma Fozia Qureshi, Pakistan, 036

I could not do this work without the support from ADDR. Limitation of research fund is one of the biggest obstacles in the institute for carrying out any prospective research activity.

Ayesha Molla, Pakistan, 035

## Suggestions for Improvement

*What could the Project do to improve its assistance to you and to other investigators? (For example, in proposal reviews, use of consultants, workshops.)*

Comment: Several investigators asked for improved communication and continuity of the relationship between them and the ADDR staff. Specific needs included training workshops, help with writing and publishing, contact with other researchers, and provision of research literature.

## Responses

If there were more contacts between consultants and researchers would help to expand concepts and ideas especially the data analysis on different aspects. Participation in different workshops would also help researchers to expand their views of working at problems and preventive measures. To assist researchers in submitting reports to be published in different professional journals is also needed to be supported by ADDR, if possible.

Tippan Navawongs, Grant 032 (Thailand)

We need close contact of consultants and technical support in biological basis, e.g., viral isolation and identification, bacterial culture, and its strain differentiation and GI function study. These supports will improve our capabilities and also the study quality in defining the results which may lead to strengthen the impact of the study on the national policy decision making.

Sungkom Jongpiputvanich, Grant 020 (Thailand)

ADDR have already done the best things for the grantee and their team. For me or others whose English is not their mother tongue, we still need English support during manuscript preparation and publication which we are now conducting very slowly.

Sumitr Sutra, Grant 084 (Thailand)

We hope ADDR also give attention during the process of our studies. It looks like two way communication only effective during proposal development or workshop analyses. From my experience it is rather difficult to ask opinion about problems or matter we faced during conducted the study. ADDR asked us to make progress report etc, but we received no feed back or review or comment about our report (in paper or diskette).

It is better if ADDR reviewers could understand the difficulties in how to get the best result in collecting data from the field especially in developing country with limited budget.

About international consultants: communications only effective during proposal development, workshop analyses or during consultant visit to Indonesia.

Workshops: To get best result it is better if we received the material of workshop one or two weeks before. One of our constraints is English language.

Lusia Gani, Grants 044 and 106 (Indonesia)

Always get in touch with us to give us newest development in the study area (substantially and/or methodologically). In case we need advice (for other projects) your expertise will always be useful for us.

Sarlito Wirawan Sarwono, Grant 043 (Indonesia)

We hope the project will be able to give its assistance in preparing the international publications.

Yati Soenarto, Grant 102 (Indonesia)

Proposal review and the use of consultants in the preparation of the proposal would be most helpful.

Budiono Santoso, Grant 080 (Indonesia)

Activities arranged by ADDR Project like proposal review and data analysis workshop is very helpful to investigators through meeting, discussions and assistance given by the consultants. Proposal review helps the investigator to prepare a good protocol before collecting data. Analysis data workshops assist the investigator how to summarize data, to make new value, to interpret the result. It is also important that ADDR assist the investigator in writing the study results to be published in journal.

Hendarmin Aulia, Grant 047 (Indonesia)

The project could improve its assistance to us and other investigators by holding workshops or seminars or conferences, assists us with consultants in proposal development, educational material development for intervention and especially data analysis. We need also the assistance in paper writing for publication.

Ratna Djuwita, Grant 081 (Indonesia)

We need the assistance, especially in paper writing for publication. Other thing that we would like you to know is we would like to improve our ability in data analysis, i.e., using SAS computer program.

Nurhayati Prihartono, Grant 091 (Indonesia)

Our main deficiency now is report writing.

Rusdi Ismail, Grant 101 (Indonesia)

The support that we have received to improve our projects and our publications has not been as strong as we would have liked. In this aspect, ADDR should improve its feedback to the different projects and researchers.

Gonzalo Gutiérrez, Grants 009 and 076 (Mexico)

I have missed particularly the feedback when it comes to preparing manuscripts for publication. I have received very little technical assistance from ADDR, despite my repeatedly asking for it, and when it has come it has been late and sparse.

Homero Martínez, Grant 010 (Mexico)

The role of ADDR consultants is very important. They are the source not only of knowledge, but also of motivation. I have experienced that the quality of the different people that have been involved in our different projects is not uniform. It is also clear that a more thorough review of the proposals may be beneficial.

I have been involved in one proposal development workshop, and it was a great learning experience. More workshops like that, focusing on different aspects (like data analysis, etc.) could be beneficial.

Samuel Nurko, Grant 078 (Mexico)

To promote the exchange of information between similar projects (I could discuss my results and know the results of other groups working with algorithms for bloody diarrhea and we could speed up consensus and improve analysis).

Promote collaboration between groups with advance technology and those with field studies. For instance we could have worked with DNA probes for Shigella, Campylobacter or VTEC.

Javier Torres, Grant 095 (Mexico)

It could be helpful to provide pertinent literature that is often difficult to find in underdeveloped countries.

Jesus Bulux, Grant 086 (Mexico)

It would be worthwhile if the project could provide longer term consultancies. . . . It would also be useful if we could have some workshops on epidemiology or experimental design and meet and discuss with other investigators our findings.

A better communication with our group would be appreciated.

Eduardo Salazar-Lindo, Grant 023 (Peru)

More training in computer and use of specific softwares.

U.A. Igun, Grant 064 (Nigeria)

Definitely, the use of training workshops will go a long way in assisting me and other investigators in the future. The assistance of Consultants cannot be overemphasised international projects of this nature.

Mobility is another problem spot. ADDR should look into the future possibilities of circumventing the establishment and their parastatals as far as transportation to project site is involved.

B.M. Afolabi, Grant 097 (Nigeria)

ADDR should consider identifying and using local consultants where applicable and/or necessary. For example in our health education intervention, I have found the input of a local consultant from the African Regional Health Education Centre most useful.

E.E. Ekanem, Grant 025 (Nigeria)

I requested a consultant which ADDR never provided. With our team we carried out the project without the technical assistance from ADDR either in form of workshops or in consultancy despite the fact that we have mutually identified the consultant. I could not explain why my project was not given the same attention as other projects.

P. N. Nkwi, Grant 056 (Cameroon)

It is commendable that ADDR is providing assistance to young researchers, not only in funding but also technical assistance. There is however room for improvement.

- i. The data management workshop should closely follow the proposal development workshop, and should go through all the different aspects of data management, not just questionnaire generation on a computer. Thus the issue of data quality and keeping track of records needs greater emphasis.
- ii. The researchers should have functioning computers before commencement of a study.
- iii. Technical assistance/consultants should be within easy reach of the researcher. Perhaps use of local or regional consultants may be useful to the researchers.

Nazrat M. Mirza, Grant 039 (Nigeria)

Support for statistical analysis and analysis of qualitative methods would consolidate the project . . . providing consultants for various technical aspects of projects facilitates the investigators in improving their methodologies. However the quantitative workshop arranged in Karachi could not achieve its objectives, since it was not focussed on the needs of the individual investigators.

Salma H. Badruddin, Grant P018 (Pakistan)

I would like to propose that ADDR also help plan data analyses and arrange writing retreats near the end of the project cycles in order to facilitate writing and preparation of manuscripts.

Asma Fozia Qureshi, Grant 036 (Pakistan)

Prior to start of the project, ADDR could help in providing training facilities to the PI on the use of assessment techniques available in the reputed institutes of USA. It would greatly facilitate our project activity, and also we would be able to complete the work much earlier.

Ayesha Molla, Grant 035 (Pakistan)

## Other Comments

*Please write any other comments which you would like ADDR to pass on to USAID.*

Comment: Specific requests included more support for interdisciplinary research, journal subscriptions, short training courses, seminars with government officials, and improved supply of reagents.

## Responses

It would be very helpful and great contribution to the combined disciplines of medicine and sociology if more financial supports would be provided to the integrated team to conduct qualitative research on diarrheal disease and its related factors.

Tippan Navawongs, Grant 032 (Thailand)

I do not know whether we can put item for journal subscription or buying some textbooks related to the topic in the budget allocation. This will be very beneficial.

Yati Soenarto, Grant 102 (Indonesia)

I suppose that USAID could spread its kind of support to ADDR, like short courses, training programs to increase the skill of researcher.

Hendarmin Aulia, Grant 047 (Indonesia)

We are very grateful with all the ADDR funding and support.

Ratna Djuwita, Grant 081 (Indonesia)

The strategic model that used by ADDR to make the research work done since 1989 had been adapted by our unit to increase institutional research capacity, as well as the quality. . . . This strategy should be kept and improved wherever possible by USAID mission and we believe researchers from developing countries will like it.

Gde Muninjaya, Grants 045 and 092 (Indonesia)

To get the results effect to the policy, holding a specific seminar, which will be attended by the ministry of health, ministry of coordination for social welfare and the Board of Alim Ulama in the study area . . . would be an appropriate strategy.

Nurhayati Prihartono, Grant 091 (Indonesia)

Bravo ADDR. I believe in the goodwill of Dr. Richard Cash. He will never quit from us. But in case ADDR project was terminated, or ADDR technically can not support us any more, an appeal to the motors of ADDR is: please look for another way to support us.

Rusdi Ismail, Grant 101 (Indonesia)

The rigour and thoroughness which ADDR puts into the assessment of its proposals should be recommended to other organisations. I benefitted immensely from passing through ADDR reviews.

U.A. Igun, Grant 064 (Nigeria)

The National Institute for Medical Research Lagos is willing to cooperate with ADDR on projects that will improve the health status of mankind.

B.M. Afolabi, Grant 097 (Nigeria)

ADDR should continue relentlessly with its present activities and perhaps should be more concerned with the quality and less with the quantity of funded projects.

E.E. Ekanem, Grant 025 (Nigeria)

ADDR's involvement with our Institution has been one of the most positive experiences I have had since my return to Mexico. Clearly, all its members have always been receptive to comments, to criticism, and to suggestions, as well as very comprehensive and helpful when needed.

Samuel Nurko, Grant 078 (Mexico)

Having an effective and efficient ADDR project manager in Islamabad really expedites the work. The rule of barring concurrent funding to the same investigator does not allow following a cohort that is being studied. For example in our present study . . . it would be a great loss of vital information to lose this cohort.

Salma H. Badruddin, Grant P018 (Pakistan)

As I mentioned above, delayed supply of reagents is one of the obstacles we face very often. It takes prolonged period before we get the supply and carry on with our work. There should be some channel in the ADDR office where we could request for an early supply of reagents.

Ayesha Molla, Grant 035 (Pakistan)

## Appendix 6

# Appendix 6

## NON - GRANT ACTIVITIES BY FOUR PHASES

COUNTRY ACTIVITY	1985-1988	1988-1990	1990-1992	1992-1993	TOTALS
<b>PAKISTAN</b>					
Support for scientists to attend Food-based ORT		\$11,934.47			
Contingency Funds for Transport and care of Treatment Failures at Aga Khan University		\$5,000.00			
Support for Special Session on Diarrheal Disease and Nutrition at Pakistan Pediatrics Conference		\$2,000.00			
Proposal Development Workshop			\$34,756.00		
Proposal Development Workshop			\$44,954.21		
ASCODD				\$10,000.00	
					<b>\$108,644.68</b>
..... .....					

<b>INDONESIA</b>					
Proposal Development Workshop	\$26,116.00				
Core Support for Center for Child Survival	20,894.50				
Core Award to Center for Child Survival		\$22,011.00			
Data Analysis/Report Writing Workshop		\$15,921.00			
Institutional Support Grant to Center for Child Survival		\$16,175.00			
					<b>\$101,117.50</b>
<b>BANGLADESH</b>					
Technical Assistance: Silimperi	\$500,000.00				
Technical Assistance: Hlady	\$122,320.00				
Technical Assistance: Bennish	\$273,556.82				
					<b>\$895,876.82</b>

<b>THAILAND</b>					
Proposal Development Workshop	\$10,285.52				
Conference on Invasive Diarrheas and Dysentery		\$44,647.23			
Data Analysis Workshop		\$16,175.00			
Proposal Development Workshop		\$28,346.01			
					<b>\$99,453.76</b>
<b>KOREA</b>					
Support for Scientists to attend International Conference on Nutrition		\$7,270.69			<b>\$7,270.69</b>
<b>NEPAL</b>					
Support for Scientists to attend Asian Conference on Diarrheal Disease		\$25,540.07			<b>\$25,540.07</b>
<b>INDIA</b>					
Persistent Diarrhea Proposal Development Workshop			\$28,356.38		<b>\$28,356.38</b>

<b>PERU</b>					
Institutional Support Grant for Computers		\$1,844.85			\$1,844.85
<b>MEXICO</b>					
Applied Ethnographic Training Session	\$8,385.00				\$8,385.00
<b>ECUADOR</b>					
Support for ICDDR,B Technical Assistance in Cholera Control			\$18,861.00		\$18,861.00
<b>CHOLERA/LATIN AMERICAN BUREAU</b>					
Travel of ICDDR,B experts to Ecuador & Peru			\$25,980.00		
Conference travel Drs. Salazar & Gil			\$5,988.00		
Conference travel of Dr. Salazar			\$3,100.00		
Technical assistance to Bolivia by Dr. Izaguirre			\$1,630.00		
Cholera surveillance Guatemala			\$1,000.00		
					\$37,698.00

157

<b>NIGERIA</b>					
Conference for Principle Researchers and Implementers on Control Programs and Possible Venues for Research		\$3,400.00			
AFCODD		\$12,133.01			
AFCODD			\$10,000.00		
Support for Nigerian Scientists to Present at the Pediatric Association of Nigeria		\$892.50			
Support for Presentation at Hygiene Conference			\$577.54		
Support for Organizing Committee, Conference on Diarrheal Diseases			\$10,000		
Proposal Development Workshop				\$11,606.05	
					<b>\$48,609.10</b>

123

<b>KENYA</b>					
Proposal Development Workshop	\$8,805.45				
Institutional Support Grant, Univ. of Nairobi, Dept. of Pediatrics		\$4,995.75			
Support for Conference on Persistent Diarrhea			\$20,798.10		
Technical Assistance to Applied Human Nutrition Unit: Kielmann		\$3,000.00			
					<b>\$37,599.30</b>
<b>CAMEROON</b>					
Proposal Development Workshop				\$32,766.93	<b>\$32,766.93</b>
<b>GHANA</b>					
Proposal Development Workshop				\$25,870.00 (Est.)	<b>\$25,870.00</b>

186

<b>USA</b>					
Support for Panel Presentation of Study Results at Society for Pediatric Research			\$1,200.00		\$1,200.00
<b>AUSTRALIA</b>					
Support for Presentation of Research Results at Asian Conference of Paediatrics and Scientific Meeting of the Australian College of Paediatrics			\$1,500.00		\$1,500.00
Support of ADDR Investigators with studies relating to prescribing practices to pre- INCLEN meeting. Meeting with WHO, INRUD, ADDR, INCLEN				To be determined	

<b>AMSTERDAM</b>					
Support for Presentation of Research Results Conference on Social and Cultural Aspects of Pharmaceuticals			\$3,945.30		\$3,945.30

**TOTAL SPENDING**

**\$ 1,484,539**

146

Appendix 7

## Appendix 7

### ADDR Grantee Assistance Table

Assistance \ Phase	Oct. 1985 - Sept. 1988	Oct. 1988 - Sept. 1990	Oct. 1990 - Sept. 1992	Oct. 1992 - Sept. 1993
Review of Pre-proposals	31	19	30	80
Synthesis of Comments	31	19	30	80
Provision of Technical Literature	28	17	27	80
Proposal Development Workshop	19	11	20	52
Individual Proposal Development	12	8	10	28
Peer Review	31	19	30	80
Synthesis Letters	29	19	30	80
Technical Assistance On-Site	92	86	219	43
Technical Assistance Off-Site	31	19	30	80
Data Analysis Workshop	0	15	0	1
Assistance with Publications	11	31	38	0
Inclusion in Special Issues	0	0	15	0
Technical and Monetary Assistance to Present Papers at Conferences	0	16	5	9
Monetary Assistance Only to Present Papers at Conferences	0	7	8	0
Equipment	12	7	2	9
<b>TOTAL</b>	<b>327</b>	<b>293</b>	<b>494</b>	<b>622</b>

Although projects in the following countries were never funded, there were several site visits between November 17, 1986 and September 1988.

--	Haiti:	9
--	Senegal:	1
--	Brazil:	8

All of the grants divided as follows: 85-88 = 001-050 88-90 = 051-089 90-92 = 090-121 92-93 = > 121 & Pakistan & cholera add-ons	Review of Pre-proposals
same as above	Synthesis of Comments
90% of all grants, except for 92-92 = 100%	Provision of Technical Literature
number of funded groups attending	Proposal Development Workshop
all grants less those attending dev. workshops	Individual Proposal Development
all grants	Peer Review
all grants	Synthesis Letters
counted from trip reports	Technical Assistance On-Site
all grants	Technical Assistance Off-Site
number of funded groups attending	Data Analysis Workshop
90% of all published materials	Assistance with Publications
all grants publishing in special issues	Inclusion in Special Issues
from annual report	Technical and Monetary Assistance to Present Papers at Conferences
from annual report and files	Monetary Assistance only to Present Papers at Conferences
from equipment list, broken down in time as stated in first box	Equipment

## Appendix 8

## **Appendix 8**

### **ADDR Workshops**

#### **1986 - 1987**

Proposal Development Workshop, Bangkok, Thailand, October, 1987 (6).

#### **1988 - 1989**

Proposal Development Workshop, Kenya, May 1988 (6).

Applied Ethnographic Training Session, Mexico, January 1988 (2).

Proposal Development Workshop, Depok, Indonesia, June-July 1988 (8).

Proposal Development Workshop, Nairobi, Kenya, May 1989 (2).

Data Analysis Workshop, Bangkok, Thailand, August 1989 (8).

Data Analysis/Report Writing Workshop, Depok, Indonesia, August 1989 (7).

#### **1990 - 1991**

Proposal Development Workshop, Thailand/Indonesia, Bangkok, Thailand, March 1990 (9).

Proposal Development Workshop, Quetta, Pakistan, July 1991 (13).

Persistent Diarrhea Proposal Development Workshop, New Delhi, India, July 1991 (3).

#### **1992 - 1993**

Proposal Development Workshop, Bhurban, Pakistan, April 1992 (16).

Proposal Development Workshop, Ibadan, Nigeria, June 1992 (17).

Proposal Development Workshop, Kribi, Cameroon, October 1992 (12).

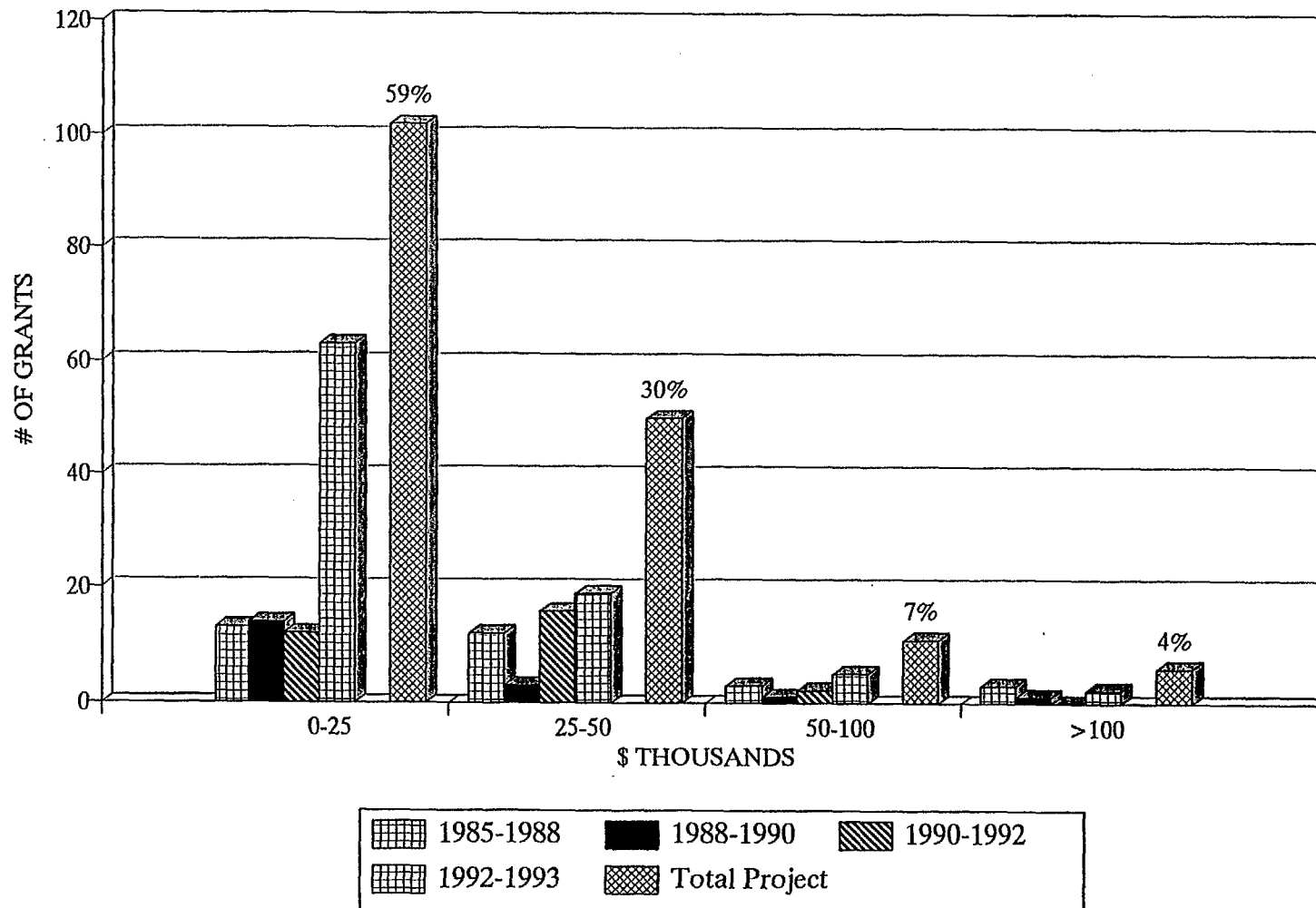
Proposal Development Workshop, Sogakope, Ghana, November 1992 (11).

Data Analysis Workshop, Punchak, Indonesia, April 1993 (planned) (10).

## Appendix 9

Appendix 9

# ADDR PROJECT Grant Size Per Funding Phase



160

## Appendix 10

## Appendix 10

JAT 18 January, 1993

### PRELIMINARY STATISTICS ON ADDR GRANTEES

(Source: Ongoing ADDR questionnaire about career incentives)

Questionnaires from ADDR studies funded through June 1991.  
Returned from 95 co-investigators.

Primary discipline:       23% social science  
                              71% clinical science  
                              6% no answer

Proportion who have disseminated research through:

	<u>YES</u>	<u>NO</u>	<u>NO ANSWER</u>
Local presentations	0.89	0.08	0.03
International presentations	0.70	0.27	0.03
Local publications	0.66	0.26	0.08
International publications	0.39	0.52	0.09
Other publications	0.65	0.23	0.12
Chapters in books	0.43	0.48	0.09
Books	0.16	0.73	0.11
Summaries for policy-makers	0.33	0.53	0.14

Mean time spent in:

Teaching:   27% s.d. 18  
Research:   40% s.d. 18  
Service:     21% s.d. 18  
Other:       7% s.d. 05

Mean number of funded research projects, including ADDR: 4.6, s.d. 6  
(range 0-50, median 3)

195

## Appendix 11

1/6/93

## **Appendix 11**

### **Laboratory Equipment Provided by HIID/ADDR for Research**

#### **MEXICO:**

Grant # 120: 1 bomb calorimter

#### **PAKISTAN:**

Grant # 034: 1 refractometer

#### **PAKISTAN ADD-ON:**

Grant # P024: 1 pulse oximeter  
50 Flex II probes  
6 sets directigen RSV kits  
Mucus traps/nasal catheters

Grant # P033: 1 pulse oximeter  
50 Flex II probes

#### **PERU:**

INN: 1 spectrophotometer

#### **GUATEMALA:**

Grant # 086: 1 flamephotometer

Grant # 099: 1 centrifuge

191

**Computer Equipment Provided by HIID/ADDR for Research****INDONESIA:**

Grant # 047: 1 Toshiba T3100E laptop computer

Grant # 058: Software: SPSS

**KENYA:**

Grant # 039: 1 UPS (uninterrupted power supply)  
Software: SPSS

Grant # 051: 1 ALS AT computer  
1 Panasonic 1124 printer  
Software: SPSS, WordPerfect, dBase IV

**MEXICO:**

Grant # 009: 1 IDS Turbo-88 computer  
Software: Systat Mac+, PC Write

Grant # 010: 1 Modem  
Software: Systat, Symantec Utilities, Endnote, Epilog

Grant # 078: 1 IBM PS2 computer  
1 HP Deskjet printer  
Software: SPSS, WordPerfect (Spanish)

**NIGERIA:**

Grant # 013: 1 IBM Model 30 computer  
1 Epson FX286E printer  
Software: SPSS, WordPerfect, dBase III, Harvard Graphics

Grant # 064: 1 ALS AT computer  
1 Epson FX850 printer  
Software: SPSS, Advanced States, Data Entry, WordPerfect

**PAKISTAN:**

Grant # 005: 1 Epson printer  
Software: SPSS

Grant # 006: 1 TeleCAT 186 computer  
1 Epson printer  
Software: SPSS

**PAKISTAN ADD-ON:**

Grant # P015: 1 ALS 486 computer  
1 dot matrix printer  
Software: Microsoft Word

Grant # P020: 1 SPSS software program

Grant # P022: 1 ALS 486 computer  
1 dot matrix printer  
Software: Microsoft Word

Grant # P023: 1 ALS 486 computer  
1 dot matrix printer  
Software: Microsoft Word

Grant # P026: 1 ALS 486 computer  
1 dot matrix printer  
Software: Microsoft Word

Grant # P030: 1 ALS 486 computer  
1 dot matrix printer  
Software: Microsoft Word, SPSS

Grant # P034: 1 ALS 486 computer  
1 dot matrix printer  
Software: Microsoft Word, SPSS

**PERU:**

Grant # 023: 4 Epson print heads

Grant # 024: 1 Club AT 286 computer  
1 HP Laserjet printer

1/6/93

Grant # 031: 1 IBM XT computer  
1 Epson LX-80 printer

Grant # 067: 1 LAN start-up kit

**THAILAND:**

Grant # 061: 1 SPSS software program

## Appendix 12

## Appendix 12

### INSTITUTIONAL AFFILIATION OF GRANTEES AND AWARD AMOUNTS - 1985 TO 1992

Country	Institution	1985-88 Grants		1988-90 Grants		1990-1992 Grants		SUMMARY	
		#	Amount	#	Amount	#	Amount	#	Amount
Pakistan	Aga Khan University	6	231,452	1	25,937	5	164,880	12	422,270
	Army Medical College	1	31,051	1	15,699	1	26,792	3	73,542
	Allama Iqbal Medical College	0	0	0	0	3	37,246	3	37,246
	Children' Hospital, PIMS	0	0	0	0	1	24,670	1	24,670
	College of Community Medicine	0	0	0	0	1	12,221	1	12,221
	District Headquarters	0	0	0	0	1	15,724	1	15,724
	Dow Medical College	0	0	0	0	3	71,243	3	71,243
	Dow Medical College and Civ. Hospital	0	0	0	0	1	20,644	1	20,644
	Khyber Medical College	0	0	0	0	1	9,339	1	9,339
	King Edward Medical College	0	0	0	0	3	53,342	3	53,342
	National Institute of Child Health	0	0	0	0	2	38,705	2	38,705
	Nishtar Hospital	0	0	0	0	1	7,174	1	7,174
	NWFP Agriculture University	0	0	0	0	1	48,417	1	48,417
	Pakistan Institute for Medical Science	0	0	0	0	1	10,829	1	10,829
	Rawalpindi General Hospital	0	0	0	0	1	10,598	1	10,598
	Shaikh Zayed Hospital	0	0	0	0	1	51,511	1	51,511
	Shaikh Zayed Medical Institute	0	0	0	0	1	8,314	1	8,314
	University of the Punjab	0	0	0	0	1	12,315	1	12,315
Indonesia	University of Indonesia	0	0	3	52,594	2	54,590	5	107,184
	Atma Jaya Foundation	0	0	1	20,872	1	31,743	2	52,615
	Udayana University	0	0	1	20,075	1	23,859	2	43,934
	Sriwijay University	0	0	2	55,521	1	37,759	3	93,280
	Syiah Kuala University	0	0	1	20,724	0	0	1	20,724
	Gadjah Mada University	0	0	0	0	2	50,478	2	50,478
	Ministry of Health	0	0	0	0	1	25,188	1	25,188
Thailand	Ministry of Public Health	1	33,013	0	0	0	0	1	33,013
	Mahidol University	7	175,511	1	3,190	3	69,462	11	248,163
	Chaing Mai University	1	10,662	0	0	0	0	1	10,662
	Chulalongkorn University	1	24,922	0	0	0	0	1	24,922
	Khon Kaen University	1	30,546	0	0	1	39,968	2	70,514

202

Peru	Inst. Inter. de Nutrición	4	152,371	1	115,054	4	175,737	9	443,162
	Univ. Cayetano Heredia	3	166,337	0	0	0	0	3	166,337
	PRISMA	0	0	0	0	3	85,199	3	85,199
Mexico	IMSS	1	32,217	1	59,988	2	49,915	4	142,120
	Inst. Nac. de Nutrición	1	217,056	1	24,992	0	0	2	242,048
	El Colegio de México	0	0	1	16,720	0	0	1	16,720
	Hospital Infantil de México	0	0	1	20,615	1	49,437	2	70,052
	Inst. Nac. de México	0	0	0	0	1	24,992	1	24,992
Guatemala	CeSSIAM	0	0	0	0	2	60,149	2	60,149
	INCAP	0	0	0	0	1	6,860	1	6,860
Ecuador	BIOCIENCIAS	0	0	0	0	1	21,537	1	21,537
Nigeria	University of Maiduguri	0	0	1	24,918	0	0	1	24,918
	University of Lagos	1	15,447	1	24,800	1	24,762	3	65,009
	University of Ilorin	1	122,632	0	0	0	0	1	122,632
	N. Inst. for Med. Research	0	0	0	0	1	16,610	1	16,610
Kenya	University of Nairobi	3	75,677	0	0	0	0	3	75,677
Cameroon	University of Yaounde	0	0	1	12,778	0	0	1	12,778
Zaire	SIDA					1	26,848	1	26,848
Senegal	ORANA			1	9,367			1	9,367
Costa Rica	University of Costa Rica	1	6,725	0	0	0	0	1	6,725
Period Totals		33	1,325,619	20	523,844	56	1,499,057	109	3,348,520

## Appendix 13

## Appendix 13

### Proposals Receiving Multiple Funding:

Alarcón	(2)
Bhutta	(2)
Ekanem	(2)
Gani	(2)
Grange	(2)
Gutiérrez	(2)
Igun	(2)
Malik	(2)
Martínez/Calva	(2)
Molla	(2)
Muninjaya	(2)
Nurhayati	(2)
Salazar Lindo	(2)
Sumitr	(2)
Wandee	(2)

205

## Appendix 14

# Appendix 14

## ADDR Level of Effort for Core and Subcontractor Staff in Person Months (to June 1992)

INSTITUTES	1985	1986	1987	1988	1989	1990	1991	1992	TOTAL
<u>HARVARD</u>									
Person mos. bud.	0.0	44.6	66.2	60.0	90.8	105.0	75.8	90.8	
Person mos. act.	0.0	44.4	54.2	58.8	71.6	75.8	90.8	93.8	489.4
Budget	\$0	\$327,516	\$568,434	\$836,348	\$1,082,554	\$1,021,178	\$935,929	\$374,372	\$5,146,331
Expenditure	\$0	\$321,517	\$453,078	\$516,829	\$611,886	\$606,555	\$903,091	\$792,951	\$4,205,907
Difference	\$0	\$5,999	\$115,356	\$319,519	\$470,668	\$414,623	\$32,838	(\$418,579)	\$940,424 reallocated to grants
<u>JOHNS HOPKINS</u>									
Person mos. bud.	combined		22.0	11.6	6.0	9.5	8.3	6.2	63.7
Person mos. act.	combined		15.0	7.7	6.5	8.0	5.3	4.0	46.5
Budget	combined		\$413,328	\$239,262	\$145,001	\$114,036	\$109,107	\$0	\$1,020,734
Expenditure	combined		\$367,104	\$126,233	\$84,673	\$84,119	\$88,788	\$63,134	\$814,051
Difference			\$46,224	\$113,029	\$60,328	\$29,917	\$20,319	(\$63,134)	\$206,683 reallocated \$170,256 JHU/ICDDRB activities, \$36,427 to ADDR core
<u>TUFTS</u>									
Person mos. bud.		4.4	4.4	9.2	6.4	8.4	12	0	44.8
Person mos. act.		4.4	4.4	4.4	6.4	6.4	11.4	0.0	37.4
Budget		\$148,718	\$125,364	\$91,408	\$69,427	\$111,148	\$156,850	\$0	\$702,915
Expenditure		\$124,394	\$79,551	\$76,669	\$73,658	\$105,413	\$121,647	\$99,987	\$681,319
Difference		\$24,324	\$45,813	\$14,739	(\$4,231)	\$5,735	\$35,203	(\$99,987)	\$21,596 reallocated to ADDR core

### Notes:

Person months (PERSON MOS.) includes administrative and technical staff.

1992 represents effort of 9 months only.

The figures for subcontractors are as reported by them to us.

JHU reallocation figures as presented are not separable.

Appendix 15

# Appendix 15

## SITE VISITS 1985 - 1992

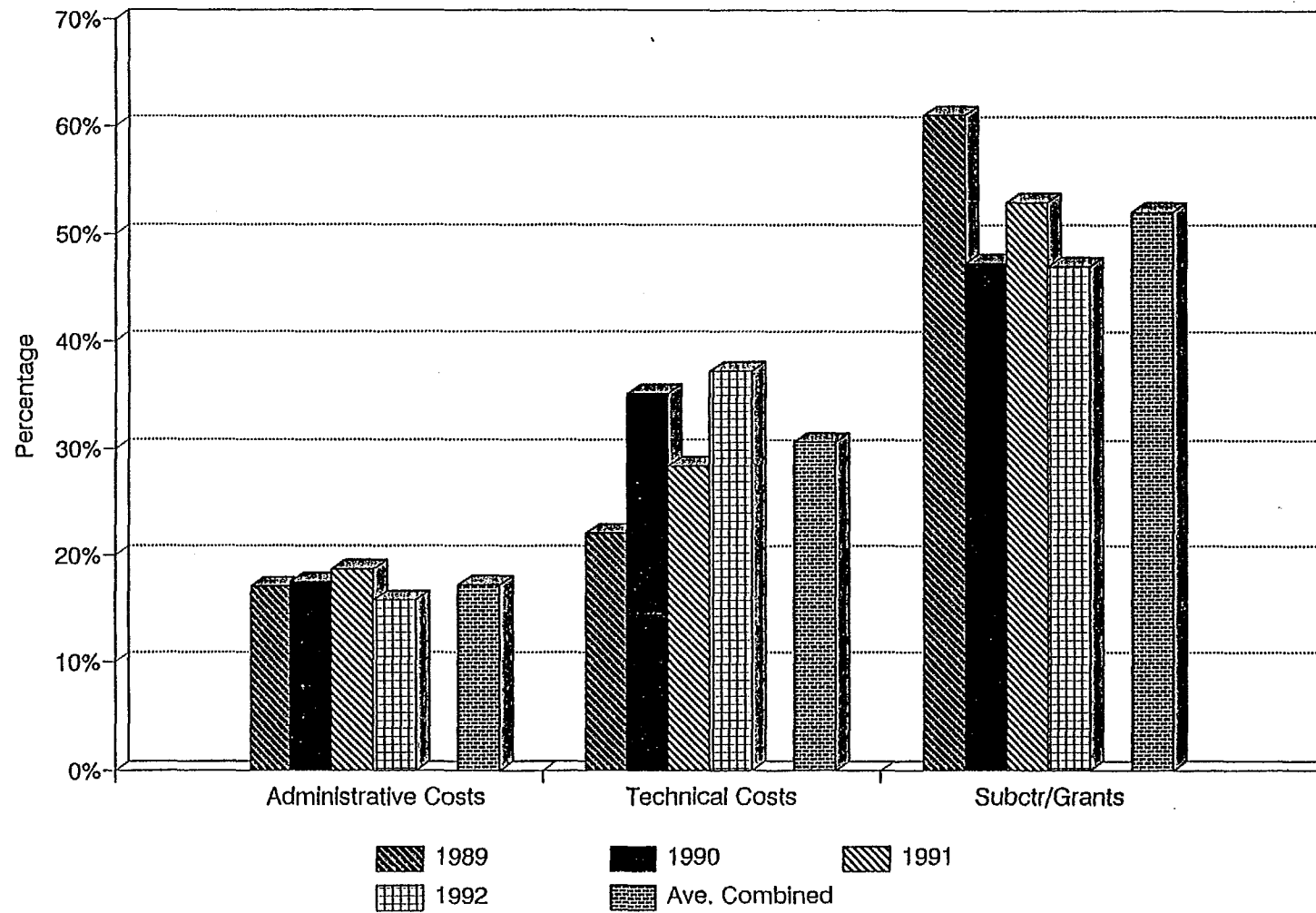
	1985 - 1987		1988 - 1990		1991 - 1992	
COUNTRY	STAFF	CONSULTANTS	STAFF	CONSULTANTS	STAFF	CONSULTANTS
Nigeria	0	3	3	4	4	1
Cameroon	0	0	0	1	2	1
Cote D'Ivoire	0	0	0	0	1	0
Ghana	0	0	0	0	2	0
Mexico	0	1	3	7	5	4
Guatemala	0	0	0	1	0	5
Ecuador	0	0	0	0	2	3
Peru	2	2	2	5	2	7
Pakistan	3	3	7	5	5	12
India	0	0	0	0	0	1
Bangladesh	0	0	1	1	0	2
Haiti	0	3	0	0	0	0
Thailand	0	5	3	6	1	5
Indonesia	0	0	8	5	3	8
Kenya	1	5	7	5	1	2
Zaire	0	1	0	0	0	0
Brazil	0	2	0	0	0	0

202

Appendix 16

Appendix 16

ADDR PROJECT  
COST BREAKDOWN 1989-1992



21

DR - Breakdown of Costs As Of December 31, 1990

	<u>Administrative Costs</u>	<u>Technical Costs</u>	<u>Subcontracts/ Grants</u>	<u>1990 Total Costs</u>
Salaries	97,060	124,652		221,712
Consultants		77,981		77,981
Fringe Benefits	20,815	26,733		47,548
Travel-Core Staff/Domestic	6,507			6,507
Travel-Consultants/Staff		67,214		67,214
Allowances-Core Staff/Domesti	3,127			3,127
Allowances-Consultants/Staff		25,287		25,287
Other Direct Costs	40,592	17,397		57,989
Overhead	38,139	76,971		115,110
Subcontracts			71,395	71,395
Research Grants**			487,829	487,829
Total	206,241	416,235	559,224	1,181,700
	17%	35%	47%	100%

Key Assumptions for determining administrative costs:

1. Salaries are charged as follows:

Project Manager	100%
Support Staff	100%
Full Time Scientific Staff	33%

Dr. Peterson and Dr. Good have no administrative responsibilities

2. The following line items are 100% Administrative

Domestic Travel  
Domestic Allowances

3. Other Direct Costs Allocation: 70%

212

ADDR - Breakdown of Costs As Of December 31, 1991

	<u>Administrative Costs</u>	<u>Technical Costs</u>	<u>Subcontracts/ Grants</u>	<u>1990 Total Costs</u>
Salaries	164,435	143,499		307,934
Consultants		93,352		93,352
Fringe Benefits	36,088	31,493		67,581
Travel-Core Staff/Domestic	14,853			14,853
Travel-Consultants/Staff		114,838		114,838
Allowances-Core Staff/Domesti	4,399			4,399
Allowances-Consultants/Staff		38,203		38,203
Other Direct Costs	80,622	34,552		115,174
Overhead	65,805	99,879		165,684
Subcontracts			333,701	333,701
Research Grants**			705,124	705,124
Total	366,202	555,817	1,038,825	1,960,844
	19%	28%	53%	100%

Key Assumptions for determining administrative costs:

1. Salaries are charged as follows:

Project Manager	100%
Support Staff	100%
Full Time Scientific Staff	33%

Dr. Peterson and Dr. Good have no administrative responsibilities

2. The following line items are 100% Administrative

Domestic Travel  
Domestic Allowances

3. Other Direct Costs Allocation: 70%

ADDR - Breakdown of Costs As Of December 31, 1992\*

	<u>Administrative Costs</u>	<u>Technical Costs</u>	<u>Subcontracts/ Grants</u>	<u>1990 Total Costs</u>
Salaries	186,837	286,824		473,661.63
Consultants		99,101		99,101.26
Fringe Benefits	26,027	39,956		65,983.09
Travel-Core Staff/Domestic	14,739			14,738.98
Travel-Consultants/Staff		129,639		129,639.11
Allowances-Core Staff/Domesti	4,456			4,456.00
Allowances-Consultants/Staff		38,787		38,787.38
Other Direct Costs	48,716	73,074		121,789.46
Overhead	69,224	164,541		233,765.03
Subcontracts			233,476	233,476.00
Research Grants**			815,563	815,563.00
Total	350,000	831,922	1,049,039	2,230,961
	16%	37%	47%	100%

\* Actual Costs to Nov 92; Projected Dec 92 Costs.

Key Assumptions for determining administrative costs:

1. Salaries are charged as follows:

Project Manager	100%
Support Staff	100%
Full Time Scientific Staff	33%

Dr. Peterson and Dr. Good have no administrative responsibilities

2. The following line items are 100% Administrative

Domestic Travel  
Domestic Allowances

3. Other Direct Costs Allocation: 40%

## Appendix 17

## Appendix 17

### ADDR Evaluation List of Contacts

#### \*\*\* AUSTRALIA \*\*\*

Dr. Nick Higginbotham  
University of Newcastle  
Centre for Clinical Epidemiology and  
Biostatistics

#### \*\*\* BANGLADESH \*\*\*

Dr. A.M.R. Chowdhury\*  
Bangladesh Rural Advancement Committee

Mr. Dave Piet  
USAID/Dhaka

Mr. Bill Goldman  
USAID/Dhaka

Dr. A.K.M. Siddique\*  
ICDDR,B

Dr. Demissie Habte  
Director, ICDDR,B

#### \*\*\* COTE D'IVOIRE \*\*\*

Dr. Horan  
USAID/Abidjan

Dr. Sif Ericsson  
USAID/Abidjan

#### \*\*\* ECUADOR \*\*\*

Dr. Francisco Carrión\*  
Associate Director of Academic Affairs  
FLACSO

Dr. Ken Yamashita\*  
USAID/Ecuador

Dr. Edmundo Granda\*  
Centro de Estudios y Asesoría en Salud

---

\* Letter sent, no written response received.

**\*\*\* FINLAND \*\*\***

Dr. Timo Vesikari  
Department of Biomedical Sciences  
University of Tampere

**\*\*\* GHANA \*\*\***

Fikre Y. Menkir  
UNICEF Ghana

Dr. Sam Adjei\*  
Director, Health Research Unit  
Ministry of Health

**\*\*\* GUATEMALA \*\*\***

Dr. Jesús Bulux  
CeSSIAM

Isabel de Ramírez  
CeSSIAM

Dr. Sandy Collier\*  
ROCAP

José Ramiro Cruz  
INCAP

Dr. Gary Cook\*  
USAID/Guatemala

Dr. Noel Solomons  
CeSSIAM

Dr. Hernán Delgado\*  
INCAP

Dr. Carolina Vettorazzi  
CeSSIAM

Dr. Carlos Grazioso  
CeSSIAM

Baudilio López  
USAID/Guatemala

Dr. Susana Molina  
CeSSIAM

**\*\*\* INDONESIA \*\*\***

Dr. Anhari Achadi  
Center for Child Survival  
University of Indonesia

Dr. Michael Dibley\*  
Morvita Project

Dr. Cynthia Myntti\*  
Ford Foundation

---

\* Letter sent, no written response received.

211

Dr. Alex Papilaya  
Center for Child Survival  
University of Indonesia

Dr. John Rogosch\*  
USAID/Jakarta

**\*\*\* LAGOS \*\*\***

Dr. Christian Laubyry\*  
UNICEF

Dr. Julius D.A. Makanjuola\*  
Director, Planning Research and Statistics  
Federal Ministry of Health

**\*\*\* MEXICO \*\*\***

Dr. José Alberto García Aranda  
Hospital Infantil de México

Dr. Homero Martínez  
Instituto Nacional de Nutrición

Dr. Juan Garduño Espinosa  
Ministry of Health

Dr. Onofre Muñoz  
Instituto Mexicano de Seguridad Social

Dr. Kumate  
Minister of Health

Dr. Irene Maulen Radovan  
Instituto Nacional de Pediatría de México

Dr. Héctor Guiscafne  
Instituto Mexicano de Seguridad Social

Nancy Sweeney  
Health, Population, and Nutrition  
USAID/Mexico

Dr. Gonzalo Gutiérrez  
Ministry of Health

Dr. Javier Torres  
Hospital de Pediatría  
Centro Médico Nacional  
Instituto Mexicano de Seguridad Social

Dr. Carmen Martínez  
Hospital de Pediatría  
Centro Médico Nacional  
Instituto Mexicano de Seguridad Social

**\*\*\* NIGERIA \*\*\***

Dr. Eugene Chiavaroli\*  
USAID/Nigeria

**\*\*\* PAKISTAN \*\*\***

Anne Aarnes  
Chief, HPN  
USAID/Islamabad

Dr. Afzal

---

\* Letter sent, no written response received.

Dr. Ijaz Ahmad  
Diarrheal Disease Unit  
Rawalpindi General Hospital

Dr. Mobina Agboatwalla  
Dow Medical College/Civil Hospital

Dr. Tanveer Ahmad  
Dow Medical College/Civil Hospital

Dr. D.S. Akram  
Chief, Department of Pediatrics  
Dow Medical College/Civil Hospital

Dr. Anjun  
Diarrheal Disease Unit  
Rawalpindi General Hospital

Dr. Fayyez Atif  
Allama Iqbal Medical College

Dr. Taiq I. Bhutta  
King Edward Medical College/May Hospital

Dr. Zulfigar Ahmed Bhutta  
Associate Professor  
Department of Pediatrics  
Aga Khan University Medical College

Dr. Lois Bradshaw  
Health Officer, HPN  
USAID/Islamabad

Dr. Jack Bryant\*  
Aga Khan University Hospital

Dr. Abdul Jamil Choudhry  
Assistant Professor  
Allama Iqbal Medical College

Dr. Arjumand Faisal  
Chief, Child Survival Project  
USAID/Islamabad

Dr. Guns

Dr. Mumtaz Husain  
Aga Khan University Medical College  
Department of Community Health Sciences

Dr. Rafat Hussain  
Department of Community Health and  
Paediatrics  
Aga Khan University Medical College

Dr. Mohammed Imtiaz  
Dept. of Social and Preventive Paediatrics  
King Edward Medical College/May Hospital

Dr. Bazmi Inam  
Department of Community Health and  
Pediatrics  
Aga Khan University Medical College

Dr. Fehmida Jalil  
Dept. of Social and Preventive Paediatrics  
King Edward Medical College/May Hospital

Dr. Mushtaq A. Khan  
Director, ARI Project  
Children's Hospital  
Pakistan Institute of Medical Sciences

Prof. M.Z. Malik Kundi  
Department of Paediatrics  
Diarrheal Disease Unit  
Rawalpindi Medical College/General Hospital

Major General Iftikhar Malik, Ph.D.  
Army Medical College  
Institute of Pathology

Dr. Sajid Maqbool  
Shaikh Sayed Hospital

Dr. Aisha Mehnaz  
Dow Medical College/Civil Hospital

Dr. Mahmuda Mubasher  
Head, Department of Community Medicine  
Allama Iqbal Medical College

---

\* Letter sent, no written response received.

Dr. S.A. Qazi  
The Children's Hospital  
Pakistan Institute of Medical Sciences

Dr. Nassim

Dr. Fozia Qureshi  
Department of Community Health and  
Pediatrics  
Aga Khan University Medical College

Dr. Zeba Rasmussen  
Aga Khan Health Services

Dr. Iqbal Sheikh  
King Edward Medical College/Mayo Hospital

Dr. Mary Taj  
Department of Pediatrics  
King Edward Medical College/Mayo Hospital

Dr. Sohail Thobani  
Assistant Professor  
Department of Paediatrics  
Aga Khan University Medical College

**\*\*\* PERU \*\*\***

Dr. Josephine Gilman\*  
Director, PRISMA Association

Dr. Edgar Necochea\*  
USAID/Lima

Dr. Jason Weisfeld  
Chief, Health and Nutrition  
UNICEF Islamabad

Guillermo López de Romana\*  
Instituto de Investigación Nutricional

Dr. Luís Vergara\*  
Director, Control de Enfermedades Diarréicas  
(Diarrheal Disease Control)

**\*\*\* SWITZERLAND \*\*\***

Dr. J. Tulloch  
Director, Division of Diarrheal and Acute  
Respiratory Disease Control

---

\* Letter sent, no written response received.

**\*\*\* THAILAND \*\*\***

President  
Mahidol University

Dean, Medical School  
Mahidol University

Dr. Yonyut Kachopadunkitti  
National Epidemiology Board of Thailand  
Ministry of Public Health

Dr. Natt  
Former President  
Mahidol University

Dr. Mandhana Pradipasen  
Department of Nutrition  
Faculty of Public Health  
Mahidol University

Dr. Santhat Sermsri  
Former Dean  
Faculty of Social Sciences and Humanities

Dr. Kraisid Tontisirin  
Institute of Nutrition  
Mahidol University

**\*\*\* UNITED KINGDOM \*\*\***

Dr. Richard G.A. Feachem\*  
London School of Hygiene and  
Tropical Medicine

Dr. Sharon Huttley  
Maternal and Child Epidemiology Unit  
Department of Epidemiology  
and Population Sciences  
London School of Hygiene and  
Tropical Medicine

Kate O'Malley  
Executive Editor  
Dialogue on Diarrhea/ARI News  
AHRTAG

**\*\*\* U.S.A. \*\*\***

Dr. Kathy Attawell\*  
AHRTAG

Dr. David E. Bell\*  
Gamble Professor Emeritus  
Population Sciences and International Health

Dr. Robert E. Black  
Johns Hopkins University  
School of Hygiene and Public Health  
Department of International Health

Dr. Doris Calloway\*  
Department of Nutritional Sciences  
University of California, Berkeley

Dr. Larry Casazza  
PRITECH  
Management Sciences for Health

Dr. Lincoln C. Chen  
Harvard University  
School of Public Health

---

\* Letter sent, no written response received.

Dr. George Curlin\*  
Deputy Director  
Division of Microbiology and Infectious  
Diseases  
NIAID

Dr. Cutberto Garza\*  
Division of Nutritional Sciences  
Cornell University

Dr. Roger Glass\*  
Chief, VGU  
Centers for Disease Control

Dr. Jeff Harris\*  
Centers for Disease Control

Dr. Isabel de Zoysa\*  
WHO/CDD Program

Dr. Gerald Keusch  
Chief, Division of Geographic Medicine  
and Infectious Disease  
Tufts University/New England Medical Center

Dr. Richard Laing\*  
Management Sciences for Health

Dr. Robert S. Lawrence\*  
Director of Health Sciences  
The Rockefeller Foundation

Dr. Shirley Lindenbaum\*  
Graduate Faculty of Anthropology  
New School for Social Research

Dr. Adetokunbo O. Lucas  
Harvard University  
School of Public Health

Dr. David Nicholas\*  
Center for Human Services

Dr. Barbara Pillsbury\*  
International Health Development

Dr. Glen Patterson\*  
Management Sciences for Health

Dr. Mark Rasmuson\*  
Academy for Educational Development

Dr. Fred Robbins\*  
Case Western Reserve

Dr. Dennis Ross-Degnan\*  
Drug Policy Research Group

Dr. T.S. Rothermel\*  
Director, Division of Global  
and Interregional Programmes  
United Nations Development Programme

Dr. Monica Sharma  
Senior Advisor, CDD/ARI  
Child Survival Unit  
UNICEF

Dr. Bonnie Stanton\*  
Western House Center

Dr. J. Ellis Turner  
Director, WASH  
Camp, Dresser & McKee International, Inc.

Dr. Juan Urrutia  
Regional CDD Advisor  
Maternal and Child Health Program  
PAHO

Dr. Susan Zimicki\*  
WHO/Annenberg School of Communication

---

\* Letter sent, no written response received.

222

A.I.D./W Personnel:

Dr. Al Bartlett  
R&D/H/Health Services Division

Carol Dabbs  
LAC/DR

Dr. Frances Davidson  
R&D/Office of Nutrition

Dr. Jerry Gibson  
R&D/H/Health Services Division

Dr. Pamela Johnson  
Acting Associate Director  
R&D/Office of Health

Dr. Hiram Larew  
PPC/POL/SP

Dr. William Lyerly  
AFR/ARTS/HHR

Melanie Marlett  
PPC/POL/SP

Dr. Caryn Miller  
R&D/H/Applied Research Division

Dr. Melinda Moree  
AAAS Fellow  
R&D/H/Applied Research Division

Dr. J. Norris  
Bureau for Europe/DR/HR

Dr. Richard Seifman  
Director,  
R&D/Office of Nutrition

Dr. Ann Van Dusen  
Acting Assistant Administrator  
Bureau for Research and Development

ADDR Personnel:

Dr. Richard Cash  
Principal Investigator

Charlotte Gnecco  
Project Manager

Jonathan Harrington  
Writer/Editor

Dr. Guillermo Herrera  
Project Scientist

Dr. Maye Olivola  
Project Scientist

Dr. Johannes Sommerfeld  
Project Scientist

Dr. James Trostle  
Project Scientist